SEQUENCE LISTING

<110> Lees, Ann M.
        Lees, Robert S.
        Law, Simon W.
        Arjona, Anibal A.

<120> NOVEL LOW DENSITY LIPOPROTEIN BINDING
        PROTEINS AND THEIR USE IN DIAGNOSING AND TREATING
        ATHEROSCLEROSIS

<130> 10797-004001

<140> US 09/616,289
<141> 2000-07-14

<150> US 09/517,849
<151> 2000-03-02

<150> US 08/979,608
<151> 1997-11-26

<150> US 60/031,930
<151> 1996-11-27

<150> US 60/048,547
<151> 1997-06-03

<160> 53

<170> FastSEQ for Windows Version 4.0

<210> 1
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<212> PRT
<213> Oryctolagus cuniculus

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Met Ser Lys Asn Thr Val Ser Ser Ala Arg Phe Arg Lys Val Asp Val
1   5   10   15
Asp Glu Tyr Asp Glu Asn Lys Phe Val Asp Glu Glu Asp Gly Gly Asp
                20   25   30
Gly Gln Ala Gly Pro Asp Glu Gly Glu Val Asp Ser Cys Leu Arg Gln
            35   40   45
Gly Asn Met Thr Ala Ala Leu Gln Ala Ala Leu Lys Asn Pro Pro Ile
        50   55   60
Asn Thr Arg Ser Gln Ala Val Lys Asp Arg Ala Gly Ser Ile Val Leu
65   70   75   80
Lys Val Leu Ile Ser Phe Lys Ala Gly Asp Ile Glu Lys Ala Val Gln
                85   90   95
Ser Leu Asp Arg Asn Gly Val Asp Leu Leu Met Lys Tyr Ile Tyr Lys
                100   105   110
Gly Phe Glu Ser Pro Ser Asp Asn Ser Ser Ala Val Leu Leu Gln Trp
            115   120   125
His Glu Lys Ala Leu Ala Ala Gly Gly Val Gly Ser Ile Val Arg Val
        130   135   140

Leu Thr Ala Arg Lys Thr Val
145   150

<210> 2
<211> 317
<212> PRT
<213> Oryctolagus cuniculus

<220>
<221> VARIANT
<222> (1)...(317)
<223> Xaa = Any Amino Acid

<400> 2
Asp Cys Arg Ser Ser Ser Asn Asn Arg Xaa Pro Lys Gly Gly Ala Ala
 1   5   10   15
Arg Ala Gly Gly Pro Ala Arg Pro Val Ser Leu Arg Glu Val Val Arg
             20   25   30
Tyr Leu Gly Gly Ser Ser Gly Ala Gly Gly Arg Leu Thr Arg Gly Arg
         35   40   45
Val Gln Gly Leu Leu Glu Glu Glu Ala Ala Ala Arg Gly Arg Leu Glu
     50   55   60
Arg Thr Arg Leu Gly Ala Leu Ala Leu Pro Arg Gly Asp Arg Pro Gly
65   70   75   80
Arg Ala Pro Pro Ala Ala Ser Ala Arg Ala Ala Arg Asn Lys Arg Ala
                 85   90   95
Gly Glu Glu Arg Val Leu Glu Lys Glu Glu Glu Glu Glu Glu Glu Glu
             100   105   110
Asp Asp Glu Asp Asp Asp Asp Val Val Ser Glu Gly Ser Glu Val
             115   120   125
Pro Glu Ser Asp Arg Pro Ala Gly Ala Gln His His Gln Leu Asn Gly
     130   135   140
Gly Glu Arg Gly Pro Gln Thr Ala Lys Glu Arg Ala Lys Glu Trp Ser
145   150   155   160
Leu Cys Gly Pro His Pro Gly Gln Glu Glu Gly Arg Gly Pro Ala Ala
                 165   170   175
Gly Ser Gly Thr Arg Gln Val Phe Ser Met Ala Ala Leu Ser Lys Glu
             180   185   190
Gly Gly Ser Ala Ser Ser Thr Thr Gly Pro Asp Ser Pro Ser Pro Val
             195   200   205
Pro Leu Pro Pro Gly Lys Pro Ala Leu Pro Gly Ala Asp Gly Thr Pro
     210   215   220
Phe Gly Cys Pro Ala Gly Arg Lys Glu Lys Pro Ala Asp Pro Val Glu
225   230   235   240
Trp Thr Val Met Asp Val Val Glu Tyr Phe Thr Glu Ala Gly Phe Pro
             245   250   255
Glu Gln Ala Thr Ala Phe Gln Glu Gln Glu Ile Asp Gly Lys Ser Leu
             260   265   270
Leu Leu Met Gln Arg Thr Asp Val Leu Thr Gly Leu Ser Ile Arg Leu
     275   280   285
Gly Pro Ala Leu Lys Ile Tyr Glu His His Ile Lys Val Leu Gln Gln
     290   295   300
Gly His Phe Glu Asp Asp Asp Pro Glu Gly Phe Leu Gly
305   310   315

<210> 3
<211> 232

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<212> PRT
<213> Oryctolagus cuniculus

<400> 3
Ala Ser Ala Arg Ala Ala Arg Asn Lys Arg Ala Gly Glu Glu Arg Val
1               5                   10                  15
Leu Glu Lys Glu Glu Glu Glu Glu Glu Glu Asp Asp Glu Asp Asp
            20                  25                  30
Asp Asp Asp Val Val Ser Glu Gly Ser Glu Val Pro Glu Ser Asp Arg
        35                  40                  45
Pro Ala Gly Ala Gln His His Gln Leu Asn Gly Gly Glu Arg Gly Pro
    50                  55                  60
Gln Thr Ala Lys Glu Arg Ala Lys Glu Trp Ser Leu Cys Gly Pro His
65                  70                  75                  80
Pro Gly Gln Glu Glu Gly Arg Gly Pro Ala Ala Gly Ser Gly Thr Arg
                85                  90                  95
Gln Val Phe Ser Met Ala Ala Leu Ser Lys Glu Gly Gly Ser Ala Ser
            100                 105                 110
Ser Thr Thr Gly Pro Asp Ser Pro Ser Pro Val Pro Leu Pro Pro Gly
            115                 120                 125
Lys Pro Ala Leu Pro Gly Ala Asp Gly Thr Pro Phe Gly Cys Pro Ala
    130                 135                 140
Gly Arg Lys Glu Lys Pro Ala Asp Pro Val Glu Trp Thr Val Met Asp
145                 150                 155                 160
Val Val Glu Tyr Phe Thr Glu Ala Gly Phe Pro Glu Gln Ala Thr Ala
                165                 170                 175
Phe Gln Glu Gln Glu Ile Asp Gly Lys Ser Leu Leu Leu Met Gln Arg
                180                 185                 190
Thr Asp Val Leu Thr Gly Leu Ser Ile Arg Leu Gly Pro Ala Leu Lys
    195                 200                 205
Ile Tyr Glu His His Ile Lys Val Leu Gln Gln Gly His Phe Glu Asp
    210                 215                 220
Asp Asp Pro Glu Gly Phe Leu Gly
225                 230

<210> 4
<211> 252
<212> PRT
<213> Oryctolagus cuniculus

<400> 4
Thr Arg Leu Gly Ala Leu Ala Leu Pro Arg Gly Asp Arg Pro Gly Arg
1               5                   10                  15
Ala Pro Pro Ala Ala Ser Ala Arg Ala Ala Arg Asn Lys Arg Ala Gly
            20                  25                  30
Glu Glu Arg Val Leu Glu Lys Glu Glu Glu Glu Glu Glu Glu Glu Asp
        35                  40                  45
Asp Glu Asp Asp Asp Asp Asp Val Val Ser Glu Gly Ser Glu Val Pro
        50                  55                  60
Glu Ser Asp Arg Pro Ala Gly Ala Gln His His Gln Leu Asn Gly Gly
65                  70                  75                  80
Glu Arg Gly Pro Gln Thr Ala Lys Glu Arg Ala Lys Glu Trp Ser Leu
                85                  90                  95
Cys Gly Pro His Pro Gly Gln Glu Glu Gly Arg Gly Pro Ala Ala Gly
            100                 105                 110
Ser Gly Thr Arg Gln Val Phe Ser Met Ala Ala Leu Ser Lys Glu Gly
            115                 120                 125
```

```
Gly Ser Ala Ser Ser Thr Thr Gly Pro Asp Ser Pro Ser Pro Val Pro
    130                 135             140
Leu Pro Pro Gly Lys Pro Ala Leu Pro Gly Ala Asp Gly Thr Pro Phe
145             150             155             160
Gly Cys Pro Ala Gly Arg Lys Glu Lys Pro Ala Asp Pro Val Glu Trp
                165             170             175
Thr Val Met Asp Val Val Glu Tyr Phe Thr Glu Ala Gly Phe Pro Glu
            180             185             190
Gln Ala Thr Ala Phe Gln Glu Gln Glu Ile Asp Gly Lys Ser Leu Leu
        195             200             205
Leu Met Gln Arg Thr Asp Val Leu Thr Gly Leu Ser Ile Arg Leu Gly
        210             215             220
Pro Ala Leu Lys Ile Tyr Glu His His Ile Lys Val Leu Gln Gln Gly
225             230             235             240
His Phe Glu Asp Asp Asp Pro Glu Gly Phe Leu Gly
                245             250
```

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<210> 5
<211> 557
<212> PRT
<213> Oryctolagus cuniculus

<400> 5
Met Lys Asn Gln Asp Lys Lys Asn Gly Ala Ala Lys Gln Pro Asn Pro
  1             5               10              15
Lys Ser Ser Pro Gly Gln Pro Glu Ala Gly Ala Glu Gly Ala Gln Gly
            20              25              30
Arg Pro Gly Arg Pro Ala Pro Ala Arg Glu Ala Glu Gly Ala Ser Ser
        35              40              45
Gln Ala Pro Gly Arg Pro Glu Gly Ala Gln Ala Lys Thr Ala Gln Pro
        50              55              60
Gly Ala Leu Cys Asp Val Ser Glu Glu Leu Ser Arg Gln Leu Glu Asp
65              70              75              80
Ile Leu Ser Thr Tyr Cys Val Asp Asn Asn Gln Gly Ala Pro Gly Glu
                85              90              95
Asp Gly Val Gln Gly Glu Pro Pro Glu Pro Glu Asp Ala Glu Lys Ser
            100             105             110
Arg Ala Tyr Val Ala Arg Asn Gly Glu Pro Glu Pro Gly Thr Pro Val
            115             120             125
Val Asn Gly Glu Lys Glu Thr Ser Lys Ala Glu Pro Gly Thr Glu Glu
    130             135             140
Ile Arg Thr Ser Asp Glu Val Gly Asp Arg Asp His Arg Arg Pro Gln
145             150             155             160
Glu Lys Lys Lys Ala Lys Gly Leu Gly Lys Glu Ile Thr Leu Leu Met
                165             170             175
Gln Thr Leu Asn Thr Leu Ser Thr Pro Glu Glu Lys Leu Ala Ala Leu
            180             185             190
Cys Lys Lys Tyr Ala Glu Leu Leu Glu Glu His Arg Asn Ser Gln Lys
            195             200             205
Gln Met Lys Leu Leu Gln Lys Lys Gln Ser Gln Leu Val Gln Glu Lys
        210             215             220
Asp His Leu Arg Gly Glu His Ser Lys Ala Ile Leu Ala Arg Ser Lys
225             230             235             240
Leu Glu Ser Leu Cys Arg Glu Leu Gln Arg His Asn Arg Ser Leu Lys
                245             250             255
Glu Glu Gly Val Gln Arg Ala Arg Glu Glu Glu Glu Lys Arg Lys Glu
            260             265             270
```

```
Val Thr Ser His Phe Gln Met Thr Leu Asn Asp Ile Gln Leu Gln Met
            275             280             285
Glu Gln His Asn Glu Arg Asn Ser Lys Leu Arg Gln Glu Asn Met Glu
    290             295             300
Leu Ala Glu Arg Leu Lys Lys Leu Ile Glu Gln Tyr Glu Leu Arg Glu
305             310             315             320
Glu His Ile Asp Lys Val Phe Lys His Lys Asp Leu Gln Gln Gln Leu
                325             330                 335
Val Asp Ala Lys Leu Gln Gln Ala Gln Glu Met Leu Lys Glu Ala Glu
            340             345             350
Glu Arg His Gln Arg Glu Lys Asp Phe Leu Leu Lys Glu Ala Val Glu
    355             360             365
Ser Gln Arg Met Cys Glu Leu Met Lys Gln Gln Glu Thr His Leu Lys
    370             375             380
Gln Gln Leu Ala Leu Tyr Thr Glu Lys Phe Glu Glu Phe Gln Asn Thr
385             390             395             400
Leu Ser Lys Ser Ser Glu Val Phe Thr Thr Phe Lys Gln Glu Met Glu
            405             410             415
Lys Met Thr Lys Lys Ile Lys Lys Leu Glu Lys Glu Thr Thr Met Tyr
            420             425             430
Arg Ser Arg Trp Glu Ser Ser Asn Lys Ala Leu Leu Glu Met Ala Glu
            435             440             445
Glu Lys Thr Leu Arg Asp Lys Glu Leu Glu Gly Leu Gln Val Lys Ile
    450             455             460
Gln Arg Leu Glu Lys Leu Cys Arg Ala Leu Gln Thr Glu Arg Asn Asp
465             470             475             480
Leu Asn Lys Arg Val Gln Asp Leu Ser Ala Gly Gly Gln Gly Pro Val
            485             490             495
Ser Asp Ser Gly Pro Glu Arg Arg Pro Glu Pro Ala Thr Thr Ser Lys
            500             505             510
Glu Gln Gly Val Glu Gly Pro Gly Ala Gln Val Pro Asn Ser Pro Arg
            515             520             525
Ala Thr Asp Ala Ser Cys Cys Ala Gly Ala Pro Ser Thr Glu Ala Ser
    530             535             540
Gly Gln Thr Gly Pro Gln Glu Pro Thr Thr Ala Thr Ala
545             550             555
```

<210> 6
<211> 151
<212> PRT
<213> Homo sapiens

<400> 6

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Met Ser Lys Asn Thr Val Ser Ser Ala Arg Phe Arg Lys Val Asp Val
1               5               10              15
Asp Glu Tyr Asp Glu Asn Lys Phe Val Asp Glu Glu Asp Gly Gly Asp
            20              25              30
Gly Gln Ala Gly Pro Asp Glu Gly Glu Val Asp Ser Cys Leu Arg Gln
            35              40              45
Gly Asn Met Thr Ala Ala Leu Gln Ala Ala Leu Lys Asn Pro Pro Ile
    50              55              60
Asn Thr Lys Ser Gln Ala Val Lys Asp Arg Ala Gly Ser Ile Val Leu
65              70              75              80
Lys Val Leu Ile Ser Phe Lys Ala Asn Asp Ile Glu Lys Ala Val Gln
            85              90              95
Ser Leu Asp Lys Asn Gly Val Asp Leu Leu Met Lys Tyr Ile Tyr Lys
            100             105             110
```

Gly Phe Glu Ser Pro Ser Asp Asn Ser Ser Ala Met Leu Leu Gln Trp
     115   120   125

His Glu Lys Ala Leu Ala Ala Gly Gly Val Gly Ser Ile Val Arg Val
130   135   140

Leu Thr Ala Arg Lys Thr Val
145   150

<210> 7
<211> 217
<212> PRT
<213> Homo sapiens

<400> 7
Glu Glu Arg Val Leu Glu Lys Glu Glu Glu Asp Asp Asp Glu Asp
 1   5   10   15

Glu Asp Glu Glu Asp Asp Val Ser Glu Gly Ser Glu Val Pro Glu Ser
      20   25   30

Asp Arg Pro Ala Gly Ala Gln His His Gln Leu Asn Gly Glu Arg Gly
      35   40   45

Pro Gln Ser Ala Lys Glu Arg Val Lys Glu Trp Thr Pro Cys Gly Pro
   50   55   60

His Gln Gly Gln Asp Glu Gly Arg Gly Pro Ala Pro Gly Ser Gly Thr
65   70   75   80

Arg Gln Val Phe Ser Met Ala Ala Met Asn Lys Glu Gly Gly Thr Ala
          85   90   95

Ser Val Ala Thr Gly Pro Asp Ser Pro Ser Pro Val Pro Leu Pro Pro
        100   105   110

Gly Lys Pro Ala Leu Pro Gly Ala Asp Gly Thr Pro Phe Gly Cys Pro
      115   120   125

Pro Gly Arg Lys Glu Lys Pro Ser Asp Pro Val Glu Trp Thr Val Met
   130   135   140

Asp Val Val Glu Tyr Phe Thr Glu Ala Gly Phe Pro Glu Gln Ala Thr
145   150   155   160

Ala Phe Gln Glu Gln Glu Ile Asp Gly Lys Ser Leu Leu Leu Met Gln
          165   170   175

Arg Thr Asp Val Leu Thr Gly Leu Ser Ile Arg Leu Gly Pro Ala Leu
        180   185   190

Lys Ile Tyr Glu His His Ile Lys Val Leu Gln Gln Gly His Phe Glu
      195   200   205

Asp Asp Asp Pro Asp Gly Phe Leu Gly
210   215

<210> 8
<211> 530
<212> PRT
<213> Homo sapiens

<400> 8
Lys Ser Ser Pro Gly Gln Pro Glu Ala Gly Pro Glu Gly Ala Gln Glu
 1   5   10   15

Arg Pro Ser Gln Ala Ala Pro Ala Val Glu Ala Glu Gly Pro Gly Ser
      20   25   30

Ser Gln Ala Pro Arg Lys Pro Glu Gly Ala Gln Ala Arg Thr Ala Gln
      35   40   45

Ser Gly Ala Leu Arg Asp Val Ser Glu Glu Leu Ser Arg Gln Leu Glu
      50   55   60

Asp Ile Leu Ser Thr Tyr Cys Val Asp Asn Asn Gln Gly Gly Pro Gly

```
65                    70                       75                         80
Glu Asp Gly Ala Gln Gly Glu Pro Ala Glu Pro Glu Asp Ala Glu Lys
                85                    90                    95
Ser Arg Thr Tyr Val Ala Arg Asn Gly Glu Pro Glu Pro Thr Pro Val
            100                  105                  110
Val Tyr Gly Glu Lys Glu Pro Ser Lys Gly Asp Pro Asn Thr Glu Glu
        115                  120                  125
Ile Arg Gln Ser Asp Glu Val Gly Asp Arg Asp His Arg Arg Pro Gln
    130                  135                  140
Glu Lys Lys Lys Ala Lys Gly Leu Gly Lys Glu Ile Thr Leu Leu Met
145                  150                  155                  160
Gln Thr Leu Asn Thr Leu Ser Thr Pro Glu Glu Lys Leu Ala Ala Leu
                165                  170                  175
Cys Lys Lys Tyr Ala Glu Leu Leu Glu Glu His Arg Asn Ser Gln Lys
            180                  185                  190
Gln Met Lys Leu Leu Gln Lys Lys Gln Ser Gln Leu Val Gln Glu Lys
        195                  200                  205
Asp His Leu Arg Gly Glu His Ser Lys Ala Val Leu Ala Arg Ser Lys
    210                  215                  220
Leu Glu Ser Leu Cys Arg Glu Leu Gln Arg His Asn Arg Ser Leu Lys
225                  230                  235                  240
Glu Glu Gly Val Gln Arg Ala Arg Glu Glu Glu Lys Arg Lys Glu
                245                  250                  255
Val Thr Ser His Phe Gln Val Thr Leu Asn Asp Ile Gln Leu Gln Met
            260                  265                  270
Glu Gln His Asn Glu Arg Asn Ser Lys Leu Arg Gln Glu Asn Met Glu
        275                  280                  285
Leu Ala Glu Arg Leu Lys Lys Leu Ile Glu Gln Tyr Glu Leu Arg Glu
    290                  295                  300
Glu His Ile Asp Lys Val Phe Lys His Lys Asp Leu Gln Gln Gln Leu
305                  310                  315                  320
Val Asp Ala Lys Leu Gln Gln Ala Gln Glu Met Leu Lys Glu Ala Glu
                325                  330                  335
Glu Arg His Gln Arg Glu Lys Asp Phe Leu Leu Lys Glu Ala Val Glu
            340                  345                  350
Ser Gln Arg Met Cys Glu Leu Met Lys Gln Gln Glu Thr His Leu Lys
        355                  360                  365
Gln Gln Leu Ala Leu Tyr Thr Glu Lys Phe Glu Glu Phe Gln Asn Thr
    370                  375                  380
Leu Ser Lys Ser Ser Glu Val Phe Thr Thr Phe Lys Gln Glu Met Glu
385                  390                  395                  400
Lys Met Thr Lys Lys Ile Lys Lys Leu Glu Lys Glu Thr Thr Met Tyr
                405                  410                  415
Arg Ser Arg Trp Glu Ser Ser Asn Lys Ala Leu Leu Glu Met Ala Glu
            420                  425                  430
Glu Lys Thr Val Arg Asp Lys Glu Leu Glu Gly Leu Gln Val Lys Ile
        435                  440                  445
Gln Arg Leu Glu Lys Leu Cys Arg Ala Leu Gln Thr Glu Arg Asn Asp
    450                  455                  460
Leu Asn Lys Arg Val Gln Asp Leu Ser Ala Gly Gly Gln Gly Ser Leu
465                  470                  475                  480
Thr Asp Ser Gly Pro Glu Arg Arg Pro Glu Gly Pro Gly Ala Gln Ala
                485                  490                · 495
Pro Ser Ser Pro Arg Val Thr Glu Ala Pro Cys Tyr Pro Gly Ala Pro
            500                  505                  510
Ser Thr Glu Ala Ser Gly Gln Thr Gly Pro Gln Glu Pro Thr Ser Ala
            515                  520                  525
```

Arg Ala
  530

<210> 9
<211> 20
<212> PRT
<213> Homo sapiens

<400> 9
Val Asp Val Asp Glu Tyr Asp Glu Asn Lys Phe Val Asp Glu Glu Asp
1   5   10   15
Gly Gly Asp Gly
           20

<210> 10
<211> 1404
<212> DNA
<213> Oryctolagus cuniculus

<220>
<221> CDS
<222> (58)...(510)

<400> 10
aagcctcgca gcggtcgggg cggcgccgcg gaggctcgag ggcggcgggc ggcggcg atg   60
                                                                 Met
                                                                 1

tcg aag aac acg gtg tcg tcg gcg cgg ttc cgg aag gtg gac gtg gat   108
Ser Lys Asn Thr Val Ser Ser Ala Arg Phe Arg Lys Val Asp Val Asp
           5   10   15

gag tac gac gag aac aag ttc gtg gac gag gaa gac ggc ggc gac ggc   156
Glu Tyr Asp Glu Asn Lys Phe Val Asp Glu Glu Asp Gly Gly Asp Gly
          20   25   30

cag gcg ggg ccg gac gag ggc gag gtg gac tcg tgc ctg cgg caa ggg   204
Gln Ala Gly Pro Asp Glu Gly Glu Val Asp Ser Cys Leu Arg Gln Gly
          35   40   45

aac atg aca gcc gcc ctg cag gcg gcg ctg aag aac cct ccc atc aac   252
Asn Met Thr Ala Ala Leu Gln Ala Ala Leu Lys Asn Pro Pro Ile Asn
 50   55   60   65

acc agg agc cag gcg gtg aag gac cgg gca ggc agc atc gtg ctg aag   300
Thr Arg Ser Gln Ala Val Lys Asp Arg Ala Gly Ser Ile Val Leu Lys
                    70   75   80

gtg ctc atc tcc ttc aag gcc ggc gac ata gaa aag gcc gtg cag tcc   348
Val Leu Ile Ser Phe Lys Ala Gly Asp Ile Glu Lys Ala Val Gln Ser
                  85   90   95

ctg gac agg aac ggc gtg gac ctg ctc atg aag tac atc tac aag ggc   396
Leu Asp Arg Asn Gly Val Asp Leu Leu Met Lys Tyr Ile Tyr Lys Gly
          100   105   110

ttc gag agc ccc tcc gac aac agc agc gcc gtg ctc ctg cag tgg cac   444

```
          Phe Glu Ser Pro Ser Asp Asn Ser Ser Ala Val Leu Leu Gln Trp His
              115                 120                 125

gag aag gcg ctg gct gca gga gga gtg ggc tcc atc gtc cgt gtc ctg         492
Glu Lys Ala Leu Ala Ala Gly Gly Val Gly Ser Ile Val Arg Val Leu
130                 135                 140                 145

act gca agg aaa acc gtg tagcctggca ggaacgggtg cctgccgggg              540
Thr Ala Arg Lys Thr Val
                    150


agcgggagct gccggtacaa agaccaaaac gcccagatgc cgccgctgcc ctgtgggcgg     600
cgtctgttcc cagcttcgct tttttcccttt cccgtgtctg tcaggattac ataaggtttc    660
ccttcgtgag aatcggagtg cgcagaggg tcctgttcat acgcgccgtg cgtccggctg      720
tgtaagaccc ctgccttcag tgtccttgag caacggtagc gtgtcgccgg ctgggtttgg     780
ttttgtcgtg gagggatctg gtcagaattt gaggccagtt cctaactca ttgctggtca     840
ggaaatgatc ttcatttaaa aaaaaaaaa agactggcag ctattatgca aaactggacc     900
ctcttccctt atttaagcag agtgagtttc tggaaccagt ggtgcccccc ccccgccccc    960
ggccgccgtc ctgctcaagg gaagcctccc tgcagagcag cagagcccct gggcaggagc    1020
gccgcgtccc gctcccagga dacagcatgc gcggtcacgc ggcacttcct gtgcctccca    1080
gccccagtgc cccggagttc ttcagggcga cagggacctc agaagactgg atccgatcca    1140
gacagacgcc cattcttggt tcagctcagt gttttcaaaa ggaacgtgct accgtgggta    1200
gagcacactg gttctcagaa cacggccggc gcttgacggt tgtcacagct ccagaacaaa    1260
tcctgggaga caggcgagcg cgagtcgccg ggcaggaatt ccacacactc gtgctgtttt    1320
tgatacctgc tttttgtttt gttttgtaaa aatgatgcac ttgagaaaat aaaacgtcag    1380
tgttgacaaa aaaaaaaaa aaaa                                            1404
```

<210> 11
<211> 1617
<212> DNA
<213> Oryctolagus cuniculus

<220>
<221> CDS
<222> (1)...(951)

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<400> 11
gac tgc cgc agc agc agc aac aac cgc tag ccg aag ggt ggc gcg gcg         48
Asp Cys Arg Ser Ser Ser Asn Asn Arg  *  Pro Lys Gly Gly Ala Ala
1               5                   10                  15

cgg gcc ggc ggc ccg gcg cgg ccc gtg agc ctg cgg gaa gtc gtg cgc        96
Arg Ala Gly Gly Pro Ala Arg Pro Val Ser Leu Arg Glu Val Val Arg
                    20                  25                  30

tac ctc ggg ggt agc agc ggc gct ggc ggc cgc ctg acc cgc ggc cgc       144
Tyr Leu Gly Gly Ser Ser Gly Ala Gly Gly Arg Leu Thr Arg Gly Arg
                35                  40                  45

gtg cag ggt ctg ctg gaa gag gag gcg gcg gcg cgg ggc cgc ctg gag       192
Val Gln Gly Leu Leu Glu Glu Glu Ala Ala Ala Arg Gly Arg Leu Glu
        50                  55                  60

cgc acc cgt ctc gga gcg ctt gcg ctg ccc cgc ggg gac agg ccc gga       240
Arg Thr Arg Leu Gly Ala Leu Ala Leu Pro Arg Gly Asp Arg Pro Gly
        65                  70                  75
```

```
cgg gcg cca ccg gcc gcc agc gcc cgc gcg gcg cgg aac aag aga gct    288
Arg Ala Pro Pro Ala Ala Ser Ala Arg Ala Ala Arg Asn Lys Arg Ala
 80              85                  90                  95

ggc gag gag cga gtg ctt gaa aag gag gag gag gag gag gag gag gaa    336
Gly Glu Glu Arg Val Leu Glu Lys Glu Glu Glu Glu Glu Glu Glu Glu
                100                 105                 110

gac gac gag gac gac gac gac gac gtc gtg tcc gag ggc tcg gag gtg    384
Asp Asp Glu Asp Asp Asp Asp Asp Val Val Ser Glu Gly Ser Glu Val
                115                 120                 125

ccc gag agc gat cgt ccc gcg ggt gcg cag cat cac cag ctg aat ggc    432
Pro Glu Ser Asp Arg Pro Ala Gly Ala Gln His His Gln Leu Asn Gly
            130                 135                 140

ggc gag cgc ggc ccg cag acc gcc aag gag cgg gcc aag gag tgg tcg    480
Gly Glu Arg Gly Pro Gln Thr Ala Lys Glu Arg Ala Lys Glu Trp Ser
            145                 150                 155

ctg tgt ggc ccc cac cct ggc cag gag gaa ggg cgg ggg ccg gcc gcg    528
Leu Cys Gly Pro His Pro Gly Gln Glu Glu Gly Arg Gly Pro Ala Ala
160                 165                 170                 175

ggc agt ggc acc cgc cag gtg ttc tcc atg gcg gcc ttg agt aag gag    576
Gly Ser Gly Thr Arg Gln Val Phe Ser Met Ala Ala Leu Ser Lys Glu
                180                 185                 190

ggg gga tca gcc tct tcg acc acc ggg cct gac tcc ccg tcc ccg gtg    624
Gly Gly Ser Ala Ser Ser Thr Thr Gly Pro Asp Ser Pro Ser Pro Val
            195                 200                 205

cct ttg ccc ccc ggg aag cca gcc ctc cca gga gcc gat ggg acc ccc    672
Pro Leu Pro Pro Gly Lys Pro Ala Leu Pro Gly Ala Asp Gly Thr Pro
            210                 215                 220

ttt ggc tgc cct gcc ggg cgc aaa gag aag ccg gca gac ccc gtg gag    720
Phe Gly Cys Pro Ala Gly Arg Lys Glu Lys Pro Ala Asp Pro Val Glu
            225                 230                 235

tgg aca gtc atg gac gtc gtg gag tac ttc acc gag gcg ggc ttc cct    768
Trp Thr Val Met Asp Val Val Glu Tyr Phe Thr Glu Ala Gly Phe Pro
240                 245                 250                 255

gag caa gcc acg gct ttc cag gag cag gag atc gac ggc aag tcc ctg    816
Glu Gln Ala Thr Ala Phe Gln Glu Gln Glu Ile Asp Gly Lys Ser Leu
                260                 265                 270

ctg ctc atg cag cgc acc gat gtc ctc acc ggc ctg tcc atc cgc ctg    864
Leu Leu Met Gln Arg Thr Asp Val Leu Thr Gly Leu Ser Ile Arg Leu
                275                 280                 285

ggg cca gcg ttg aaa atc tat gag cac cat atc aag gtg ctg cag cag    912
Gly Pro Ala Leu Lys Ile Tyr Glu His His Ile Lys Val Leu Gln Gln
            290                 295                 300

ggt cac ttc gag gac gat gac ccg gaa ggc ttc ctg gga tgagcacaga    961
Gly His Phe Glu Asp Asp Asp Pro Glu Gly Phe Leu Gly
```

```
Gly His Phe Glu Asp Asp Asp Pro Glu Gly Phe Leu Gly
    305                 310                 315
```

```
gccgccgcgc cccttgtccc cacccccacc ccgcctggac ccattcctgc ctccatgtca    1021
cccaaggtgt cccagaggcc aggagctgga ctgggcaggc gaggggtgcg gacctaccct    1081
gattctggta gggggcgggg ccttgctgtg ctcattgcta ccccccacc ccgtgtgtgt     1141
ctctgcacct gcccccagca caccctcc ggagcctgga tgtcgcctgg gactctggcc      1201
tgctcatttt gccccagat cagcccctc cctccctcct gtcccaggac atttttaaa       1261
agaaaaaaag gaaaaaaaa aattggggag ggggctggga aggtgcccca agatcctcct     1321
cggcccaacc aggtgtttat tcctatatat atatatatat gttttgttct gcctgttttt    1381
cgttttttgg tgcgtggcct ttcttccctc ccaccaccac tcatggcccc agccctgctc    1441
gccctgtcgg cgggagcagc tgggaatggg aggagggtgg gaccttgggt ctgtctccca    1501
ccctctctcc cgttggttct gttgtcgctc cagctggctg tattgctttt taatattgca   ·1561
ccgaagggtt gtttttttt tttaaataa aattttaaaa aaaggaaaaa aaaaaa          1617
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<210> 12
<211> 1362
<212> DNA
<213> Oryctolagus cuniculus

<220>
<221> CDS
<222> (1)...(696)

<400> 12
gcc agc gcc cgc gcg gcg cgg aac aag aga gct ggc gag gag cga gtg    48
Ala Ser Ala Arg Ala Ala Arg Asn Lys Arg Ala Gly Glu Glu Arg Val
 1               5                   10                  15

ctt gaa aag gag gag gag gag gag gag gag gaa gac gac gag gac gac    96
Leu Glu Lys Glu Glu Glu Glu Glu Glu Glu Glu Asp Asp Glu Asp Asp
             20                  25                  30

gac gac gac gtc gtg tcc gag ggc tcg gag gtg ccc gag agc gat cgt   144
Asp Asp Asp Val Val Ser Glu Gly Ser Glu Val Pro Glu Ser Asp Arg
         35                  40                  45

ccc gcg ggt gcg cag cat cac cag ctg aat ggc ggc gag cgc ggc ccg   192
Pro Ala Gly Ala Gln His His Gln Leu Asn Gly Gly Glu Arg Gly Pro
     50                  55                  60

cag acc gcc aag gag cgg gcc aag gag tgg tcg ctg tgt ggc ccc cac   240
Gln Thr Ala Lys Glu Arg Ala Lys Glu Trp Ser Leu Cys Gly Pro His
 65                  70                  75                  80

cct ggc cag gag gaa ggg cgg ggg ccg gcc gcg ggc agt ggc acc cgc   288
Pro Gly Gln Glu Glu Gly Arg Gly Pro Ala Ala Gly Ser Gly Thr Arg
                 85                  90                  95

cag gtg ttc tcc atg gcg gcc ttg agt aag gag ggg gga tca gcc tct   336
Gln Val Phe Ser Met Ala Ala Leu Ser Lys Glu Gly Gly Ser Ala Ser
             100                 105                 110

tcg acc acc ggg cct gac tcc ccg tcc ccg gtg cct ttg ccc ccc ggg   384
Ser Thr Thr Gly Pro Asp Ser Pro Ser Pro Val Pro Leu Pro Pro Gly
         115                 120                 125
```

```
aag cca gcc ctc cca gga gcc gat ggg acc ccc ttt ggc tgc cct gcc    432
Lys Pro Ala Leu Pro Gly Ala Asp Gly Thr Pro Phe Gly Cys Pro Ala
    130             135             140

ggg cgc aaa gag aag ccg gca gac ccc gtg gag tgg aca gtc atg gac    480
Gly Arg Lys Glu Lys Pro Ala Asp Pro Val Glu Trp Thr Val Met Asp
145             150             155             160

gtc gtg gag tac ttc acc gag gcg ggc ttc cct gag caa gcc acg gct    528
Val Val Glu Tyr Phe Thr Glu Ala Gly Phe Pro Glu Gln Ala Thr Ala
                165             170             175

ttc cag gag cag gag atc gac ggc aag tcc ctg ctg ctc atg cag cgc    576
Phe Gln Glu Gln Glu Ile Asp Gly Lys Ser Leu Leu Leu Met Gln Arg
                180             185             190

acc gat gtc ctc acc ggc ctg tcc atc cgc ctg ggg cca gcg ttg aaa    624
Thr Asp Val Leu Thr Gly Leu Ser Ile Arg Leu Gly Pro Ala Leu Lys
        195             200             205

atc tat gag cac cat atc aag gtg ctg cag cag ggt cac ttc gag gac    672
Ile Tyr Glu His His Ile Lys Val Leu Gln Gln Gly His Phe Glu Asp
    210             215             220

gat gac ccg gaa ggc ttc ctg gga tgagcacaga gccgccgcgc cccttgtccc    726
Asp Asp Pro Glu Gly Phe Leu Gly
225             230

cacccccacc ccgcctggac ccattcctgc ctccatgtca cccaaggtgt cccagaggcc    786
aggagctgga ctgggcaggc gaggggtgcg gacctaccct gattctggta gggggcgggg    846
ccttgctgtg ctcattgcta ccccccccacc ccgtgtgtgt ctctgcacct gcccccagca    906
cacccctccc ggagcctgga tgtcgcctgg gactctggcc tgctcatttt gccccccagat    966
cagcccctc cctcccctct gtcccaggac attttttaaa agaaaaaaag gaaaaaaaaa    1026
aattggggag ggggctggga aggtgcccca agatcctcct cggcccaacc aggtgtttat    1086
tcctatatat atatatatat gttttgttct gcctgttttt cgttttttgg tgcgtggcct    1146
ttcttccctc ccaccaccac tcatggcccc agccctgctc gccctgtcgg cgggagcagc    1206
tgggaatggg aggagggtgg gaccttgggt ctgtctccca ccctctctcc cgttggttct    1266
gttgtcgctc cagctggctg tattgctttt taatattgca ccgaagggtt gttttttttt    1326
ttttaaataa aattttaaaa aaaggaaaaa aaaaaa    1362
```

```
<210> 13
<211> 1422
<212> DNA
<213> Oryctolagus cuniculus

<220>
<221> CDS
<222> (1)...(756)

<400> 13
acc cgt ctc gga gcg ctt gcg ctg ccc cgc ggg gac agg ccc gga cgg    48
Thr Arg Leu Gly Ala Leu Ala Leu Pro Arg Gly Asp Arg Pro Gly Arg
 1           5               10              15

gcg cca ccg gcc gcc agc gcc cgc gcg gcg cgg aac aag aga gct ggc    96
Ala Pro Pro Ala Ala Ser Ala Arg Ala Ala Arg Asn Lys Arg Ala Gly
        20              25              30
```

```
gag gag cga gtg ctt gaa aag gag gag gag gag gag gag gag gaa gac      144
Glu Glu Arg Val Leu Glu Lys Glu Glu Glu Glu Glu Glu Glu Glu Asp
        35                  40                  45

gac gag gac gac gac gac gac gtc gtg tcc gag ggc tcg gag gtg ccc      192
Asp Glu Asp Asp Asp Asp Asp Val Val Ser Glu Gly Ser Glu Val Pro
    50                  55                  60

gag agc gat cgt ccc gcg ggt gcg cag cat cac cag ctg aat ggc ggc      240
Glu Ser Asp Arg Pro Ala Gly Ala Gln His His Gln Leu Asn Gly Gly
65                  70                  75                  80

gag cgc ggc ccg cag acc gcc aag gag cgg gcc aag gag tgg tcg ctg      288
Glu Arg Gly Pro Gln Thr Ala Lys Glu Arg Ala Lys Glu Trp Ser Leu
                85                  90                  95

tgt ggc ccc cac cct ggc cag gag gaa ggg cgg ggg ccg gcc gcg ggc      336
Cys Gly Pro His Pro Gly Gln Glu Glu Gly Arg Gly Pro Ala Ala Gly
            100                 105                 110

agt ggc acc cgc cag gtg ttc tcc atg gcg gcc ttg agt aag gag ggg      384
Ser Gly Thr Arg Gln Val Phe Ser Met Ala Ala Leu Ser Lys Glu Gly
        115                 120                 125

gga tca gcc tct tcg acc acc ggg cct gac tcc ccg tcc ccg gtg cct      432
Gly Ser Ala Ser Ser Thr Thr Gly Pro Asp Ser Pro Ser Pro Val Pro
    130                 135                 140

ttg ccc ccc ggg aag cca gcc ctc cca gga gcc gat ggg acc ccc ttt      480
Leu Pro Pro Gly Lys Pro Ala Leu Pro Gly Ala Asp Gly Thr Pro Phe
145                 150                 155                 160

ggc tgc cct gcc ggg cgc aaa gag aag ccg gca gac ccc gtg gag tgg      528
Gly Cys Pro Ala Gly Arg Lys Glu Lys Pro Ala Asp Pro Val Glu Trp
                165                 170                 175

aca gtc atg gac gtc gtg gag tac ttc acc gag gcg ggc ttc cct gag      576
Thr Val Met Asp Val Val Glu Tyr Phe Thr Glu Ala Gly Phe Pro Glu
                180                 185                 190

caa gcc acg gct ttc cag gag cag gag atc gac ggc aag tcc ctg ctg      624
Gln Ala Thr Ala Phe Gln Glu Gln Glu Ile Asp Gly Lys Ser Leu Leu
                195                 200                 205

ctc atg cag cgc acc gat gtc ctc acc ggc ctg tcc atc cgc ctg ggg      672
Leu Met Gln Arg Thr Asp Val Leu Thr Gly Leu Ser Ile Arg Leu Gly
    210                 215                 220

cca gcg ttg aaa atc tat gag cac cat atc aag gtg ctg cag cag ggt      720
Pro Ala Leu Lys Ile Tyr Glu His His Ile Lys Val Leu Gln Gln Gly
225                 230                 235                 240

cac ttc gag gac gat gac ccg gaa ggc ttc ctg gga tgagcacaga          766
His Phe Glu Asp Asp Asp Pro Glu Gly Phe Leu Gly
                245                 250
```

```
gccgccgcgc cccttgtccc cacccccacc ccgcctggac ccattcctgc ctccatgtca       826
cccaaggtgt cccagaggcc aggagctgga ctgggcaggc gaggggtgcg gacctaccct       886
gattctggta gggggcgggg ccttgctgtg ctcattgcta ccccccaccc ccgtgtgtgt       946
ctctgcacct gcccccagca caccctcccc ggagcctgga tgtcgcctgg gactctggcc      1006
tgctcatttt gcccccagat cagccccctc cctccctcct gtcccaggac attttttaaa      1066
agaaaaaaag gaaaaaaaaa aattggggag ggggctggga aggtgcccca agatcctcct      1126
cggcccaacc aggtgtttat tcctatatat atatatatat gttttgttct gcctgttttt      1186
cgtttttttgg tgcgtggcct ttcttccctc ccaccaccac tcatggcccc agccctgctc      1246
gccctgtcgg cgggagcagc tgggaatggg aggagggtgg gaccttgggt ctgtctccca      1306
ccctctctcc cgttggttct gttgtcgctc cagctggctg tattgctttt taatattgca      1366
ccgaagggtt gtttttttttt ttttaaataa aattttaaaa aaaggaaaaa aaaaaa         1422
```

<210> 14
<211> 4722
<212> DNA
<213> Oryctolagus cuniculus

<220>
<221> CDS
<222> (61)...(1731)

<400> 14

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gtggaaaata gcaactgtgt ttctcaagga tccaatccca acctaaggtg gcagcgcaca       60
atg aag aat caa gac aaa aag aac ggg gct gcc aaa cag ccc aac ccc       108
Met Lys Asn Gln Asp Lys Lys Asn Gly Ala Ala Lys Gln Pro Asn Pro
1               5                   10                  15

aaa agc agc ccg gga cag ccg gaa gca gga gcg gag gga gcc cag ggg       156
Lys Ser Ser Pro Gly Gln Pro Glu Ala Gly Ala Glu Gly Ala Gln Gly
                20                  25                  30

cgg ccc ggc cgg ccg gcc ccc gcc cga gaa gcc gaa ggt gcc agc agc       204
Arg Pro Gly Arg Pro Ala Pro Ala Arg Glu Ala Glu Gly Ala Ser Ser
            35                  40                  45

cag gct ccc ggg agg ccg gag ggg gct caa gcc aaa act gct cag cct       252
Gln Ala Pro Gly Arg Pro Glu Gly Ala Gln Ala Lys Thr Ala Gln Pro
        50                  55                  60

ggg gcg ctc tgt gat gtc tct gag gag ctg agc cgc cag ttg gaa gac       300
Gly Ala Leu Cys Asp Val Ser Glu Glu Leu Ser Arg Gln Leu Glu Asp
65                  70                  75                  80

ata ctc agt aca tac tgt gtg gac aac aac cag ggg gcc ccg ggt gag       348
Ile Leu Ser Thr Tyr Cys Val Asp Asn Asn Gln Gly Ala Pro Gly Glu
                85                  90                  95

gat ggg gtc cag ggt gag ccc cct gaa cct gaa gat gca gag aag tct       396
Asp Gly Val Gln Gly Glu Pro Pro Glu Pro Glu Asp Ala Glu Lys Ser
                100                 105                 110

cgc gcc tat gtg gca agg aat ggg gag ccg gag ccg ggc acc cca gta       444
Arg Ala Tyr Val Ala Arg Asn Gly Glu Pro Glu Pro Gly Thr Pro Val
            115                 120                 125

gtc aat ggc gag aag gag acc tcc aag gca gag ccg ggc acg gaa gag       492
Val Asn Gly Glu Lys Glu Thr Ser Lys Ala Glu Pro Gly Thr Glu Glu
```

```
              130                    135                    140

atc cgg acg agc gat gag gtc gga gac cga gac cac cgg agg cca cag        540
Ile Arg Thr Ser Asp Glu Val Gly Asp Arg Asp His Arg Arg Pro Gln
145                     150                    155                160


gaa aag aag aag gcc aag ggt ctg gga aag gag atc acg ctg ctg atg        588
Glu Lys Lys Lys Ala Lys Gly Leu Gly Lys Glu Ile Thr Leu Leu Met
                    165                    170                    175


cag aca ctg aac acg ctg agc acc cca gag gag aag ctg gcg gct ctg        636
Gln Thr Leu Asn Thr Leu Ser Thr Pro Glu Glu Lys Leu Ala Ala Leu
                180                    185                    190


tgc aag aag tat gcg gaa ctg ctc gag gag cac cgg aac tcg cag aag        684
Cys Lys Lys Tyr Ala Glu Leu Leu Glu Glu His Arg Asn Ser Gln Lys
            195                    200                    205


cag atg aag ctg ctg cag aag aag cag agc cag ctg gtg cag gag aag        732
Gln Met Lys Leu Leu Gln Lys Lys Gln Ser Gln Leu Val Gln Glu Lys
        210                    215                    220


gac cac ctg cgt ggc gag cac agc aag gcc atc ctg gcc cgc agc aag        780
Asp His Leu Arg Gly Glu His Ser Lys Ala Ile Leu Ala Arg Ser Lys
225                     230                    235                240


ctc gag agc ctg tgc cgg gag ctg cag cgg cac aac cgc tcg ctc aag        828
Leu Glu Ser Leu Cys Arg Glu Leu Gln Arg His Asn Arg Ser Leu Lys
                    245                    250                    255


gaa gaa ggt gtg cag cga gcc cga gag gag gag gag aag cgc aag gag        876
Glu Glu Gly Val Gln Arg Ala Arg Glu Glu Glu Glu Lys Arg Lys Glu
                260                    265                    270


gtg acg tca cac ttc cag atg acg ctc aac gac att cag ctg cag atg        924
Val Thr Ser His Phe Gln Met Thr Leu Asn Asp Ile Gln Leu Gln Met
            275                    280                    285


gag cag cac aac gag cgc aac tcc aag ctg cgc cag gag aac atg gag        972
Glu Gln His Asn Glu Arg Asn Ser Lys Leu Arg Gln Glu Asn Met Glu
        290                    295                    300


ctg gcc gag cgg ctc aag aag ctg att gag cag tac gag ctg cga gaa       1020
Leu Ala Glu Arg Leu Lys Lys Leu Ile Glu Gln Tyr Glu Leu Arg Glu
305                     310                    315                320


gag cac atc gac aaa gtc ttc aaa cac aag gat ctg cag cag cag ctg       1068
Glu His Ile Asp Lys Val Phe Lys His Lys Asp Leu Gln Gln Gln Leu
                    325                    330                    335


gtg gac gcc aag ctc cag cag gcc cag gag atg ctg aag gag gca gag       1116
Val Asp Ala Lys Leu Gln Gln Ala Gln Glu Met Leu Lys Glu Ala Glu
                340                    345                    350


gag cgg cac cag cgg gag aag gac ttt ctc ctg aag gag gcc gtg gag       1164
Glu Arg His Gln Arg Glu Lys Asp Phe Leu Leu Lys Glu Ala Val Glu
            355                    360                    365
```

```
tcc cag agg atg tgc gag ctg atg aag caa cag gag acc cac ctg aag      1212
Ser Gln Arg Met Cys Glu Leu Met Lys Gln Gln Glu Thr His Leu Lys
    370             375                 380

cag cag ctt gcc cta tac aca gag aag ttt gag gag ttc cag aac act      1260
Gln Gln Leu Ala Leu Tyr Thr Glu Lys Phe Glu Glu Phe Gln Asn Thr
385             390                 395                 400

ctt tcc aaa agc agc gag gtg ttc acc aca ttc aaa cag gaa atg gaa      1308
Leu Ser Lys Ser Ser Glu Val Phe Thr Thr Phe Lys Gln Glu Met Glu
                405                 410                 415

aag atg aca aag aag atc aag aag ctg gag aaa gag acc acc atg tac      1356
Lys Met Thr Lys Lys Ile Lys Lys Leu Glu Lys Glu Thr Thr Met Tyr
                420                 425                 430

cgt tcc cgg tgg gag agc agc aac aag gcc ctg ctt gag atg gct gag      1404
Arg Ser Arg Trp Glu Ser Ser Asn Lys Ala Leu Leu Glu Met Ala Glu
        435                 440                 445

gag aaa aca ctc cgg gac aaa gag ctg gaa ggc ctg cag gtg aaa atc      1452
Glu Lys Thr Leu Arg Asp Lys Glu Leu Glu Gly Leu Gln Val Lys Ile
    450                 455                 460

cag cgg ctg gag aag ctg tgc cgg gca ctg cag aca gag cgc aat gac      1500
Gln Arg Leu Glu Lys Leu Cys Arg Ala Leu Gln Thr Glu Arg Asn Asp
465             470                 475                 480

ctg aac aag agg gtg cag gac ctg agt gcc ggt ggc cag ggc ccc gtc      1548
Leu Asn Lys Arg Val Gln Asp Leu Ser Ala Gly Gly Gln Gly Pro Val
                485                 490                 495

tcc gac agc ggt cct gag cgg agg cca gag ccc gcc acc acc tcc aag      1596
Ser Asp Ser Gly Pro Glu Arg Arg Pro Glu Pro Ala Thr Thr Ser Lys
            500                 505                 510

gag cag ggt gtc gag ggc ccc ggg gct caa gta ccc aac tct cca agg      1644
Glu Gln Gly Val Glu Gly Pro Gly Ala Gln Val Pro Asn Ser Pro Arg
        515                 520                 525

gcc aca gac gct tcc tgc tgc gca ggt gca ccc agc aca gag gca tca      1692
Ala Thr Asp Ala Ser Cys Cys Ala Gly Ala Pro Ser Thr Glu Ala Ser
    530                 535                 540

ggc cag aca ggg ccc cag gag ccc acc act gcc act gcc tagagagctt      1741
Gly Gln Thr Gly Pro Gln Glu Pro Thr Thr Ala Thr Ala
545             550                 555
```

```
ggtgctgggg tgtgccagga agggagcagg cagcccagcc aggcctggcc cagcccaggc      1801
tcccatgcta agcagtccgg tgctgaggcc aggatgttct gacctggctg gcacctgacc      1861
ctctgcagtc ttggattttg tgggtcagtt ttacatgcat atggcacaca tgcaaggcct      1921
cacacatttg tgtctctaag tgtactgtgg gcttgcatcg ggggtgacga tggacagatg      1981
aagccagcgg ctcccttgtg agctgaagtc ttacggagga gacggcgtct gcactgccat      2041
cgcagtgacc tgcaggacga gttccttgag ctttccctgc ctgctttgag gctgagaccc      2101
ctcccggccc ttcagagctc ctgacaggtg atacacaccc agccttgacc gcacttctct      2161
tgggtagctg ggctctccta gcctccccca gaggcgccat tgcttctctt gacttggaga      2221
```

```
gggggatgccc aggcgtggcc ttggcaggca ctgggagcta gtgattgggc tgctctcctg   2281
cctcgagcag gggcaggagt gtttctggtg ggatgatgcg ctcgctggtc aggagccccg   2341
tgggcgctgc ttcccccgcc ctctggtgat gccaggacca ggccagtgat gcttctcagt   2401
agccttacca ttcacaggtg cctctccagc ccgcacagtg agtgacaaga tcatccaaag   2461
gattccttct gaaggtgttc gtttcgtttt gttttgttgc acgtgacggt ttgtattgag   2521
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tgccctcccc cccctcgcca tggctcctcg gccgccttgg tgctgaggtt tctgtttggt   2641
gagatcaggt tgtctgttca gagagaagag gcgtctgatg gctttgccgc cagcttgcct   2701
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tgctggtccc caggaccagc tgctcgtttg ctgtatgggt cagtttctgc ttcctgcccc   2821
ccactccacc taactgcaat ccttgggggtt tccctggttc tcgtccctgg tacctctgtg   2881
cccaagaagt agccttcttt gggattcttg ttctgcccat gcgggagctg ctgctgtctg   2941
acaggtgagg cctgagactc agcggctgac agagctgcag agctctgcac ggtggctccc   3001
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gcagtatttc ttggaagctg ttttgttgtc ctgctattcc ttcatcttcc acagtccacg   3241
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ttagctcagg caacttttct gtaaggagaa tgttaacttt ctgtaaagat gcttatttaa   4381
ctaacgcctg cttcccccac tcccaaccag gtggccaccg agagctcacc aggaggccaa   4441
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aggcacctgc ctgggggagg ggcttctctt ccttatggcc tggccatcta gattgtttaa   4561
agttgtgctg acagcttttt ttggtttttt ggtttttgtt tttgtttttg ttttttgtttt   4621
tgtctacttt tggtattcac aacagccagg gacttgattt tgatgtattt taagccacat   4681
taaataaaga gtctgttgcc ttaaaaaaaa aaaaaaaaa a   4722
```

```
<210> 15
<211> 1925
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (118)...(570)

<400> 15
gacgcctcag agcggaacag ggaagtgaat caggcgccgg gtagtgggtt ctgggctgg    60
gcttgctgag gtagaggcag cgccaagaag aggcctttgc cgctggtcgg gattggg atg   120
                                                             Met
                                                              1
```

```
tcg aag aac aca gtg tcg tcg gcc cgc ttc cgg aag gtg gac gtg gat        168
Ser Lys Asn Thr Val Ser Ser Ala Arg Phe Arg Lys Val Asp Val Asp
              5                  10                  15

gaa tat gac gag aac aag ttc gtg gac gaa gaa gat ggg ggc gac ggc        216
Glu Tyr Asp Glu Asn Lys Phe Val Asp Glu Glu Asp Gly Gly Asp Gly
             20                  25                  30

cag gcc ggg ccc gac gag ggc gag gtg gac tcc tgc ctg cgg caa gga       264
Gln Ala Gly Pro Asp Glu Gly Glu Val Asp Ser Cys Leu Arg Gln Gly
         35                  40                  45

aac atg aca gct gcc cta cag gca gct ctg aag aac ccc cct atc aac       312
Asn Met Thr Ala Ala Leu Gln Ala Ala Leu Lys Asn Pro Pro Ile Asn
 50                  55                  60                  65

acc aag agt cag gca gtg aag gac cgg gca ggc agc att gtc ttg aag       360
Thr Lys Ser Gln Ala Val Lys Asp Arg Ala Gly Ser Ile Val Leu Lys
                 70                  75                  80

gtg ctc atc tct ttt aaa gct aat gat ata gaa aag gca gtt caa tct      408
Val Leu Ile Ser Phe Lys Ala Asn Asp Ile Glu Lys Ala Val Gln Ser
                 85                  90                  95

ctg gac aag aat ggt gtg gat ctc cta atg aag tat att tat aaa gga      456
Leu Asp Lys Asn Gly Val Asp Leu Leu Met Lys Tyr Ile Tyr Lys Gly
         100                 105                 110

ttt gag agc ccg tct gac aat agc agt gct atg tta ctg caa tgg cat      504
Phe Glu Ser Pro Ser Asp Asn Ser Ser Ala Met Leu Leu Gln Trp His
     115                 120                 125

gaa aag gca ctt gct gct gga gga gta ggg tcc att gtt cgt gtc ttg      552
Glu Lys Ala Leu Ala Ala Gly Gly Val Gly Ser Ile Val Arg Val Leu
130                 135                 140                 145

act gca aga aaa act gtg tagtctggca ggaagtggat tatctgcctc            600
Thr Ala Arg Lys Thr Val
                150

gggagtggga attgctggta caaagaccaa acaaccaaa tgccaccgct gccctgtggg      660
tagcatctgt ttctctcagc tttgccttct tgcttttca tatctgtaaa gaaaaaaatt     720
acatatcagt tgtcccttta atgaaaattg ggataatata gaagaaattg tgttaaaata     780
gaagtgtttc atcctttcaa aaccatttca gtgatgttta taccaatctg tatatagtat     840
aatttacatt caagttttaa ttgtgcaact tttaacccta ttggctggtt tttggttctg     900
tttggttttg tattattttt aactaatact gaaaaatttg gtcagaattt gaggccagtt     960
tcctagctca ttgctagtca ggaaatgata tttataaaaa atatgagaga ctggcagcta    1020
ttaacattgc aaaactggac catatttccc ttatttaata agcaaaatat gttttttggaa   1080
taagtggtgg gtgaatacca ctgctaagtt atagctttgt ttttgcttgc ctcctcatta   1140
tctgtactgt gggtttaagt atgctacttt ctctcagcat ccaataatca tggcccctca   1200
atttatttgt ggtcacgcag ggttcagagc aagaagtctt gctttataca aatgtatcca    1260
taaaatatca gagcttgttg ggcatgaaca tcaaactttt gttccactaa·tatggctctg   1320
tttggaaaaa actgcaaatc agaaagaatg atttgcagaa agaagaaaa actatggtgt     1380
aatttaaact ctgggcagcc tctgaatgaa atgctacttt ctttagaaat ataatagctg    1440
ccttagacat tatgaggtat acaactagta tttaagatac catttaatat gccccgtaaa    1500
tgtcttcagt gttcttcagg gtagttggga tctcaaaaga tttggttcag atccaaacaa   1560
```

```
atacacattc tgtgttttag ctcagtgttt tctaaaaaaa gaaactgcca cacagcaaaa    1620
aattgtttac tttgttggac aaaccaaatc agttctcaaa aaatgaccgg tgcttataaa    1680
aagttataaa tatcgagtag ctctaaaaca aaccacctga ccaagaggga agtgagcttg    1740
tgcttagtat ttacattgga tgccagtttt gtaatcactg acttatgtgc aaactggtgc    1800
agaaattcta taaactcttt gctgtttttg atacctgctt tttgtttcat tttgttttgt    1860
tttgtaaaaa tgataaaact tcagaaaata aaatgtcagt gttgaataat taaaaaaaaa    1920
aaaaa                                                                1925
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<210> 16
<211> 1208
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (1)...(651)

<400> 16

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gaa gag cga gta ctt gag aaa gaa gag gaa gaa gat gat gat gaa gat      48
Glu Glu Arg Val Leu Glu Lys Glu Glu Glu Glu Asp Asp Asp Glu Asp
 1               5                  10                  15

gaa gat gaa gaa gat gat gtg tca gag ggc tct gaa gtg ccc gag agt      96
Glu Asp Glu Glu Asp Asp Val Ser Glu Gly Ser Glu Val Pro Glu Ser
             20                  25                  30

gac cgt cct gca ggt gcc cag cac cac cag ctt aac ggc gag cgg gga     144
Asp Arg Pro Ala Gly Ala Gln His His Gln Leu Asn Gly Glu Arg Gly
         35                  40                  45

cct cag agt gcc aag gag agg gtc aag gag tgg acc ccc tgc gga ccg     192
Pro Gln Ser Ala Lys Glu Arg Val Lys Glu Trp Thr Pro Cys Gly Pro
     50                  55                  60

cac cag ggc cag gat gaa ggg cgg ggg cca gcc ccg ggc agc ggc acc     240
His Gln Gly Gln Asp Glu Gly Arg Gly Pro Ala Pro Gly Ser Gly Thr
 65                  70                  75                  80

cgc cag gtg ttc tcc atg gca gcc atg aac aag gaa ggg gga aca gct     288
Arg Gln Val Phe Ser Met Ala Ala Met Asn Lys Glu Gly Gly Thr Ala
                 85                  90                  95

tct gtt gcc acc ggg cca gac tcc ccg tcc ccc gtg cct ttg ccc cca     336
Ser Val Ala Thr Gly Pro Asp Ser Pro Ser Pro Val Pro Leu Pro Pro
             100                 105                 110

ggc aaa cca gcc cta cct ggg gcc gac ggg acc ccc ttt ggc tgt cct     384
Gly Lys Pro Ala Leu Pro Gly Ala Asp Gly Thr Pro Phe Gly Cys Pro
         115                 120                 125

ccc ggg cgc aaa gag aag cca tct gat ccc gtc gag tgg acc gtg atg     432
Pro Gly Arg Lys Glu Lys Pro Ser Asp Pro Val Glu Trp Thr Val Met
     130                 135                 140

gat gtc gtc gaa tat ttt act gag gct gga ttc ccg gag cag gcg aca     480
Asp Val Val Glu Tyr Phe Thr Glu Ala Gly Phe Pro Glu Gln Ala Thr
145                 150                 155                 160
```

```
gct ttc caa gag cag gaa att gat ggc aaa tct ttg ctg ctc atg cag        528
Ala Phe Gln Glu Gln Glu Ile Asp Gly Lys Ser Leu Leu Leu Met Gln
                165             170             175

cgc aca gat gtg ctc acc ggc ctg tcc atc cgc ctc ggg cca gcc ctg        576
Arg Thr Asp Val Leu Thr Gly Leu Ser Ile Arg Leu Gly Pro Ala Leu
                180             185             190

aaa atc tac gag cac cac atc aag gtg ctt cag caa ggc cac ttt gag        624
Lys Ile Tyr Glu His His Ile Lys Val Leu Gln Gln Gly His Phe Glu
                195             200             205

gat gat gac ccc gat ggc ttc tta ggc tgagcgccca gcctcacccc            671
Asp Asp Asp Pro Asp Gly Phe Leu Gly
        210             215

tgccccagcc cattccggcc cccatctcac ccaagatccc ccagagtcca ggagctggac    731
ggggacaccc tcagccctca taacagattc caaggagagg gcaccctctt gtccttatct    791
ttgccccttg tgtctgtctc acacacatct gctcctcagc acgtcggtgt ggggagggga    851
ttgctcctta aaccccaggt ggctgaccct ccccacccag tccaggacat tttaggaaaa    911
aaaaaatgaa atgtgggggg cttctcatct ccccaagatc ctcttccgtt cagccagatg    971
tttcctgtat aaatgtttgg atctgcctgt ttattttggt gggtggtctt tcctccctcc    1031
cctaccaccc atgcccccct tctcagtctg cccctggcct ccagccccta ggggactagc    1091
tgggttgggg ttcctcgggc cttttctctc ctccctcttt tctttctgtt gattgtcgct    1151
ccagctggct gtattgcttt ttaatattgc accgaaggtt ttttaaataa aattttta     1208
```

<210> 17
<211> 4697
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (3)...(1592)

<400> 17

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ca aaa agc agc cca gga caa ccg gaa gca gga ccc gag gga gcc cag        47
   Lys Ser Ser Pro Gly Gln Pro Glu Ala Gly Pro Glu Gly Ala Gln
    1               5                   10              15

gag cgg ccc agc cag gcg gct cct gca gta gaa gca gaa ggt ccc ggc      95
Glu Arg Pro Ser Gln Ala Ala Pro Ala Val Glu Ala Glu Gly Pro Gly
                20              25              30

agc agc cag gct cct cgg aag ccg gag ggg gct caa gcc aga acg gct      143
Ser Ser Gln Ala Pro Arg Lys Pro Glu Gly Ala Gln Ala Arg Thr Ala
            35              40              45

cag tct ggg gcc ctt cgt gat gtc tct gag gag ctg agc cgc caa ctg      191
Gln Ser Gly Ala Leu Arg Asp Val Ser Glu Glu Leu Ser Arg Gln Leu
        50              55              60

gaa gac ata ctg agc aca tac tgt gtg gac aat aac cag ggg ggc ccc      239
Glu Asp Ile Leu Ser Thr Tyr Cys Val Asp Asn Asn Gln Gly Gly Pro
    65              70              75
```

```
ggc gag gat ggg gca cag ggt gag ccg gct gaa ccc gaa gat gca gag      287
Gly Glu Asp Gly Ala Gln Gly Glu Pro Ala Glu Pro Glu Asp Ala Glu
 80                  85                  90                  95

aag tcc cgg acc tat gtg gca agg aat ggg gag cct gaa cca act cca      335
Lys Ser Arg Thr Tyr Val Ala Arg Asn Gly Glu Pro Glu Pro Thr Pro
                100                 105                 110

gta gtc tat gga gag aag gaa ccc tcc aag ggg gat cca aac aca gaa      383
Val Val Tyr Gly Glu Lys Glu Pro Ser Lys Gly Asp Pro Asn Thr Glu
                115                 120                 125

gag atc cgg cag agt gac gag gtc gga gac cga gac cat cga agg cca      431
Glu Ile Arg Gln Ser Asp Glu Val Gly Asp Arg Asp His Arg Arg Pro
            130                 135                 140

cag gag aag aaa aaa gcc aag ggt ttg ggg aag gag atc acg ttg ctg      479
Gln Glu Lys Lys Lys Ala Lys Gly Leu Gly Lys Glu Ile Thr Leu Leu
        145                 150                 155

atg cag aca ttg aat act ctg agt acc cca gag gag aag ctg gct gct      527
Met Gln Thr Leu Asn Thr Leu Ser Thr Pro Glu Glu Lys Leu Ala Ala
160                 165                 170                 175

ctg tgc aag aag tat gct gaa ctg ctg gag gag cac cgg aat tca cag      575
Leu Cys Lys Lys Tyr Ala Glu Leu Leu Glu Glu His Arg Asn Ser Gln
                180                 185                 190

aag cag atg aag ctc cta cag aaa aag cag agc cag ctg gtg caa gag      623
Lys Gln Met Lys Leu Leu Gln Lys Lys Gln Ser Gln Leu Val Gln Glu
                195                 200                 205

aag gac cac ctg cgc ggt gag cac agc aag gcc gtc ctg gcc cgc agc      671
Lys Asp His Leu Arg Gly Glu His Ser Lys Ala Val Leu Ala Arg Ser
            210                 215                 220

aag ctt gag agc cta tgc cgt gag ctg cag cgg cac aac cgc tcc ctc      719
Lys Leu Glu Ser Leu Cys Arg Glu Leu Gln Arg His Asn Arg Ser Leu
        225                 230                 235

aag gaa gaa ggt gtg cag cgg gcc cgg gag gag gag gag aag cgc aag      767
Lys Glu Glu Gly Val Gln Arg Ala Arg Glu Glu Glu Glu Lys Arg Lys
240                 245                 250                 255

gag gtg acc tcg cac ttc cag gtg aca ctg aat gac att cag ctg cag      815
Glu Val Thr Ser His Phe Gln Val Thr Leu Asn Asp Ile Gln Leu Gln
                260                 265                 270

atg gaa cag cac aat gag cgc aac tcc aag ctg cgc caa gag aac atg      863
Met Glu Gln His Asn Glu Arg Asn Ser Lys Leu Arg Gln Glu Asn Met
                275                 280                 285

gag ctg gct gag agg ctc aag aag ctg att gag cag tat gag ctg cgc      911
Glu Leu Ala Glu Arg Leu Lys Lys Leu Ile Glu Gln Tyr Glu Leu Arg
            290                 295                 300

gag gag cat atc gac aaa gtc ttc aaa cac aag gac cta caa cag cag      959
```

```
Glu Glu His Ile Asp Lys Val Phe Lys His Lys Asp Leu Gln Gln Gln
    305             310             315
```

```
ctg gtg gat gcc aag ctc cag cag gcc cag gag atg cta aag gag gca    1007
Leu Val Asp Ala Lys Leu Gln Gln Ala Gln Glu Met Leu Lys Glu Ala
320             325             330             335
```

```
gaa gag cgg cac cag cgg gag aag gat ttt ctc ctg aaa gag gca gta    1055
Glu Glu Arg His Gln Arg Glu Lys Asp Phe Leu Leu Lys Glu Ala Val
                340             345             350
```

```
gag tcc cag agg atg tgt gag ctg atg aag cag caa gag acc cac ctg    1103
Glu Ser Gln Arg Met Cys Glu Leu Met Lys Gln Gln Glu Thr His Leu
                355             360             365
```

```
aag caa cag ctt gcc cta tac aca gag aag ttt gag gag ttc cag aac    1151
Lys Gln Gln Leu Ala Leu Tyr Thr Glu Lys Phe Glu Glu Phe Gln Asn
            370             375             380
```

```
aca ctt tcc aaa agc agc gag gta ttc acc aca ttc aag cag gag atg    1199
Thr Leu Ser Lys Ser Ser Glu Val Phe Thr Thr Phe Lys Gln Glu Met
            385             390             395
```

```
gaa aag atg act aag aag atc aag aag ctg gag aaa gaa acc acc atg    1247
Glu Lys Met Thr Lys Lys Ile Lys Lys Leu Glu Lys Glu Thr Thr Met
400             405             410             415
```

```
tac cgg tcc cgg tgg gag agc agc aac aag gcc ctg ctt gag atg gct    1295
Tyr Arg Ser Arg Trp Glu Ser Ser Asn Lys Ala Leu Leu Glu Met Ala
                420             425             430
```

```
gag gag aaa aca gtc cgg gat aaa gaa ctg gag ggc ctg cag gta aaa    1343
Glu Glu Lys Thr Val Arg Asp Lys Glu Leu Glu Gly Leu Gln Val Lys
                435             440             445
```

```
atc caa cgg ctg gag aag ctg tgc cgg gca ctg cag aca gag cgc aat    1391
Ile Gln Arg Leu Glu Lys Leu Cys Arg Ala Leu Gln Thr Glu Arg Asn
            450             455             460
```

```
gac ctg aac aag agg gta cag gac ctg agt gct ggt ggc cag ggc tcc    1439
Asp Leu Asn Lys Arg Val Gln Asp Leu Ser Ala Gly Gly Gln Gly Ser
465             470             475
```

```
ctc act gac agt ggc cct gag agg agg cca gag ggg cct ggg gct caa    1487
Leu Thr Asp Ser Gly Pro Glu Arg Arg Pro Glu Gly Pro Gly Ala Gln
480             485             490             495
```

```
gca ccc agc tcc ccc agg gtc aca gaa gcg cct tgc tac cca gga gca    1535
Ala Pro Ser Ser Pro Arg Val Thr Glu Ala Pro Cys Tyr Pro Gly Ala
                500             505             510
```

```
ccg agc aca gaa gca tca ggc cag act ggg cct caa gag ccc acc tcc    1583
Pro Ser Thr Glu Ala Ser Gly Gln Thr Gly Pro Gln Glu Pro Thr Ser
                515             520             525
```

```
gcc agg gcc tagagagcct ggtgttgggt catgctggga agggagcggc         1632
Ala Arg Ala
```

530

```
agcccagcca ggcctggccc ataaaaggct cccatgctga gcagcccatt gctgaagcca   1692
ggatgttctt gacctggctg gcatctggca cttgcaattt tggattttgt gggtcagttt   1752
tacgtacata gggcattttg caaggccttg caaatgcatt tatacctgta agtgtacagt   1812
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tgagcatttc tctgtctgat ttgaggctca gacccctccc tgccctttca gagctcaaaa   1992
caagtaatac accaaggtct tgactgcatt tgtcttgtga gcagggcttg cttggtcagc   2052
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gccctttggt agtgccagga ccaggccaat gatgcttctc agtagcctta tcattcacag   2292
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atgctgaggt ttcctgtttg gtgagatcag gttgtttgtg gtaaaagaaa ggaaagggct   2592
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ataactacta tgtactgtgt agagccattc tatatgctga atgttctgct gttgcaaact   3012
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accaagatgg ataggatggt tagggctttg cttcttgctg ttttttcttg aactagtcat   3132
tgtcctgcag gtcccttcat cttccatacc tagcccactc ttttagccct taccttaaat   3192
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cctcagtttt aggacccaag atctgtgttg gtttcttaga ttgctagctt ttcctccagg   4092
ggaccacagc aggtgaagct caagagcgca tggctctgct aatagtaaat tgttttcagg   4152
gccttgtcca gctgagagct tcatgccac cagattctga gaggtgtcag cagcactttt   4212
ttttttatt tgttgtttgt tttccatgag gttatcggac catgggctga gctcaggcac   4272
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cggtggccct gagggctgac ccggaggcca gtggagctgc ctggtgtcca cggggagggg   4392
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gagctgcctt ctgtccctgt aactgctttc cttatggccc aacccggcca ctcagacttg   4572
tttgaagctg cactggcagc ttttttgtct cctttgggta ttcacaacag ccagggactt   4632
gattttgatg tattttaaac cacattaaat aaagagtctg ttgccttaaa·aaaaaaaaa   4692
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<210> 18
<211> 60

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<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (1)...(60)

<400> 18
gtg gac gtg gat gag tac gac gag aac aag ttc gtg gac gag gaa gac      48
Val Asp Val Asp Glu Tyr Asp Glu Asn Lys Phe Val Asp Glu Glu Asp
 1               5                   10                  15

ggc ggc gac ggc                                                      60
Gly Gly Asp Gly
              20


<210> 19
<211> 15
<212> PRT
<213> Homo sapiens

<400> 19
Glu Glu Glu Glu Asp Asp Asp Glu Asp Glu Asp Glu Glu Asp Asp
 1               5                   10                  15

<210> 20
<211> 26
<212> PRT
<213> Homo sapiens

<400> 20
Glu Glu Glu Glu Asp Asp Asp Glu Asp Glu Asp Glu Glu Asp Asp Val
 1               5                   10                  15
Ser Glu Gly Ser Glu Val Pro Glu Ser Asp
              20                  25

<210> 21
<211> 11
<212> PRT
<213> Homo sapiens

<400> 21
Val Ser Glu Gly Ser Glu Val Pro Glu Ser Asp
 1               5                   10

<210> 22
<211> 10
<212> PRT
<213> Homo sapiens

<400> 22
Glu Asp Asp Asp Pro Asp Gly Phe Leu Gly
 1               5                   10

<210> 23
<211> 30
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<212> PRT
<213> Oryctolagus cuniculus

<400> 23
Val Asp Val Asp Glu Tyr Asp Glu Asn Lys Phe Val Asp Glu Glu Asp
1   5   10   15
Gly Gly Asp Gly Gln Ala Gly Pro Asp Glu Gly Glu Val Asp
            20   25   30

<210> 24
<211> 6
<212> PRT
<213> Oryctolagus cuniculus

<400> 24
Asp Glu Gly Glu Val Asp
1   5

<210> 25
<211> 16
<212> PRT
<213> Oryctolagus cuniculus

<400> 25
Glu Glu Glu Glu Glu Glu Glu Glu Asp Asp Glu Asp Asp Asp Asp Asp
1   5   10   15

<210> 26
<211> 28
<212> PRT
<213> Oryctolagus cuniculus

<400> 26
Glu Glu Glu Glu Glu Glu Glu Glu Asp Asp Glu Asp Asp Asp Asp Asp
1   5   10   15
Val Val Ser Glu Gly Ser Glu Val Pro Glu Ser Asp
            20   25

<210> 27
<211> 12
<212> PRT
<213> Oryctolagus cuniculus

<400> 27
Val Val Ser Glu Gly Ser Glu Val Pro Glu Ser Asp
1   5   10

<210> 28
<211> 10
<212> PRT
<213> Oryctolagus cuniculus

<400> 28
Pro Pro Gly Lys Pro Ala Leu Pro Gly Ala
1   5   10

<210> 29

```
<211> 15
<212> PRT
<213> Oryctolagus cuniculus

<400> 29
Glu Asp Gly Val Gln Gly Glu Pro Pro Glu Pro Glu Asp Ala Glu
 1               5                   10                  15

<210> 30
<211> 45
<212> DNA
<213> Homo sapiens

<400> 30
gaagaggaag aagatgatga tgaagatgaa gatgaagaag atgat                    45

<210> 31
<211> 78
<212> DNA
<213> Homo sapiens

<400> 31
gaagaggaag aagatgatga tgaagatgaa gatgaagaag atgatgtgtc agagggctct    60
gaagtgcccg agagtgac                                                  78

<210> 32
<211> 33
<212> DNA
<213> Homo sapiens

<400> 32
gtgtcagagg gctctgaagt gcccgagagt gac                                 33

<210> 33
<211> 30
<212> DNA
<213> Homo sapiens

<400> 33
gaggatgatg accccgatgg cttcttaggc                                     30

<210> 34
<211> 90
<212> DNA
<213> Homo sapiens

<400> 34
gtggacgtgg atgaatatga cgagaacaag ttcgtggacg aagaagatgg gggcgacggc    60
caggccgggc ccgacgaggg cgaggtggac                                     90

<210> 35
<211> 18
<212> DNA
<213> Homo sapiens

<400> 35
gacgagggcg aggtggac                                                  18
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```
<210> 36
<211> 48
<212> DNA
<213> Homo sapiens

<400> 36
gaggaggagg aggaggagga ggaagacgac gaggacgacg acgacgac                    48

<210> 37
<211> 84
<212> DNA
<213> Homo sapiens

<400> 37
gaggaggagg aggaggagga ggaagacgac gaggacgacg acgacgacgt cgtgtccgag       60
ggctcggagg tgcccgagag cgat                                              84

<210> 38
<211> 36
<212> DNA
<213> Homo sapiens

<400> 38
gtcgtgtccg agggctcgga ggtgcccgag agcgat                                 36

<210> 39
<211> 30
<212> DNA
<213> Homo sapiens

<400> 39
cccccccggga agccagccct cccaggagcc                                       30

<210> 40
<211> 45
<212> DNA
<213> Homo sapiens

<400> 40
gaggatgggg tccagggtga gcccccctgaa cctgaagatg cagag                      45

<210> 41
<211> 7
<212> PRT
<213> Homo sapiens

<400> 41
Arg Asp Val Ser Glu Glu Leu
 1               5

<210> 42
<211> 21
<212> DNA
<213> Homo sapiens

<400> 42
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cgtgatgtct ctgaggagct g   21

<210> 43
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<212> PRT
<213> Homo sapiens

<400> 43
Met Ala Gly Pro Pro Ala Leu Pro Pro Pro Glu Thr Ala Ala Ala Ala
 1   5   10   15
Thr Thr Ala Ala Ala Ala Ser Ser Ser Ala Ala Ser Pro His Tyr Gln
            20   25   30
Glu Trp Ile Leu Asp Thr Ile Asp Ser Leu Arg Ser Arg Lys Ala Arg
        35   40   45
Pro Asp Leu Glu Arg Ile Cys Arg Met Val Arg Arg Arg His Gly Pro
    50   55   60
Glu Pro Glu Arg Thr Arg Ala Glu Leu Glu Lys Leu Ile Gln Gln Arg
65   70   75   80
Ala Val Leu Arg Val Ser Tyr Lys Gly Ser Ile Ser Tyr Arg Asn Ala
                85   90   95
Ala Arg Val Gln Pro Pro Arg Arg Gly Ala Thr Pro Pro Ala Pro Pro
            100   105   110
Arg Ala Pro Arg Gly Ala Pro Ala Ala Ala Ala Ala Ala Ala Pro Pro
        115   120   125
Pro Thr Pro Ala Pro Pro Pro Pro Ala Pro Val Ala Ala Ala Ala
        130   135   140
Pro Ala Arg Ala Pro Arg Ala Ala Ala Ala Ala Thr Ala Pro Pro
145   150   155   160
Ser Pro Gly Pro Ala Gln Pro Gly Pro Arg Ala Gln Arg Ala Ala Pro
                165   170   175
Leu Ala Ala Pro Pro Pro Ala Pro Ala Ala Pro Pro Ala Val Ala Pro
            180   185   190
Pro Ala Gly Pro Arg Arg Ala Pro Pro Pro Ala Val Ala Ala Arg Glu
            195   200   205
Pro Pro Leu Pro Pro Pro Pro Gln Pro Pro Ala Pro Pro Gln Gln Gln
        210   215   220
Gln Pro Pro Pro Pro Gln Pro Gln Pro Pro Pro Glu Gly Gly Ala Val
225   230   235   240
Arg Ala Gly Gly Ala Ala Arg Pro Val Ser Leu Arg Glu Val Val Arg
                245   250   255
Tyr Leu Gly Gly Ser Gly Gly Ala Gly Gly Arg Leu Thr Arg Gly Arg
            260   265   270
Val Gln Gly Leu Leu Glu Glu Glu Ala Ala Ala Arg Gly Arg Leu Glu
        275   280   285
Arg Thr Arg Leu Gly Ala Leu Ala Leu Pro Arg Gly Asp Arg Pro Gly
    290   295   300
Arg Ala Pro Pro Ala Ala Ser Ala Arg Pro Ser Arg Ser Lys Arg Gly
305   310   315   320
Gly Glu Glu Arg Val Leu Glu Lys Glu Glu Glu Asp Asp Asp Glu
                325   330   335
Asp Glu Asp Glu Glu Asp Asp Val Ser Glu Gly Ser Glu Val Pro Glu
            340   345   350
Ser Asp Arg Pro Ala Gly Ala Gln His His Gln Leu Asn Gly Glu Arg
            355   360   365
Gly Pro Gln Ser Ala Lys Glu Arg Val Lys Glu Trp Thr Pro Cys Gly
    370   375   380
Pro His Gln Gly Gln Asp Glu Gly Arg Gly Pro Ala Pro Gly Ser Gly

```
385                     390                     395                     400
Thr Arg Gln Val Phe Ser Met Ala Ala Met Asn Lys Glu Gly Gly Thr
                    405             410                 415
Ala Ser Val Ala Thr Gly Pro Asp Ser Pro Ser Pro Val Pro Leu Pro
                420                 425                 430
Pro Gly Lys Pro Ala Leu Pro Gly Ala Asp Gly Thr Pro Phe Gly Cys
            435                 440                 445
Pro Pro Gly Arg Lys Glu Lys Pro Ser Asp Pro Val Glu Trp Thr Val
        450                 455                 460
Met Asp Val Val Glu Tyr Phe Thr Glu Ala Gly Phe Pro Glu Gln Ala
465                 470                 475                 480
Thr Ala Phe Gln Glu Gln Glu Ile Asp Gly Lys Ser Leu Leu Leu Met
                485                 490                 495
Gln Arg Thr Asp Val Leu Thr Gly Leu Ser Ile Arg Leu Gly Pro Ala
            500                 505                 510
Leu Lys Ile Tyr Glu His His Ile Lys Val Leu Gln Gln Gly His Phe
        515                 520                 525
Glu Asp Asp Asp Pro Asp Gly Phe Leu Gly
    530                 535
```

<210> 44
<211> 546
<212> PRT
<213> Homo sapiens

<400> 44

```
Met Lys Asn Gln Asp Lys Lys Asn Gly Ala Ala Lys Gln Ser Asn Pro
1               5               10              15
Lys Ser Ser Pro Gly Gln Pro Glu Ala Gly Pro Glu Gly Ala Gln Glu
            20              25              30
Arg Pro Ser Gln Ala Ala Pro Ala Val Glu Ala Glu Gly Pro Gly Ser
        35              40              45
Ser Gln Ala Pro Arg Lys Pro Glu Gly Ala Gln Ala Arg Thr Ala Gln
    50              55              60
Ser Gly Ala Leu Arg Asp Val Ser Glu Glu Leu Ser Arg Gln Leu Glu
65              70              75              80
Asp Ile Leu Ser Thr Tyr Cys Val Asp Asn Asn Gln Gly Gly Pro Gly
                85              90              95
Glu Asp Gly Ala Gln Gly Glu Pro Ala Glu Pro Glu Asp Ala Glu Lys
            100             105             110
Ser Arg Thr Tyr Val Ala Arg Asn Gly Glu Pro Glu Pro Thr Pro Val
        115             120             125
Val Asn Gly Glu Lys Glu Pro Ser Lys Gly Asp Pro Asn Thr Glu Glu
    130             135             140
Ile Arg Gln Ser Asp Glu Val Gly Asp Arg Asp His Arg Arg Pro Gln
145             150             155             160
Glu Lys Lys Lys Ala Lys Gly Leu Gly Lys Glu Ile Thr Leu Leu Met
            165             170             175
Gln Thr Leu Asn Thr Leu Ser Thr Pro Glu Glu Lys Leu Ala Ala Leu
            180             185             190
Cys Lys Lys Tyr Ala Glu Leu Leu Glu Glu His Arg Asn Ser Gln Lys
        195             200             205
Gln Met Lys Leu Leu Gln Lys Lys Gln Ser Gln Leu Val Gln Glu Lys
    210             215             220
Asp His Leu Arg Gly Glu His Ser Lys Ala Val Leu Ala Arg Ser Lys
225             230             235             240
Leu Glu Ser Leu Cys Arg Glu Leu Gln Arg His Asn Arg Ser Leu Lys
```

```
                      245                    250                    255
Glu Glu Gly Val Gln Arg Ala Arg Glu Glu Glu Lys Arg Lys Glu
                260                    265                    270
Val Thr Ser His Phe Gln Val Thr Leu Asn Asp Ile Gln Leu Gln Met
            275                    280                    285
Glu Gln His Asn Glu Arg Asn Ser Lys Leu Arg Gln Glu Asn Met Glu
        290                    295                    300
Leu Ala Glu Arg Leu Lys Lys Leu Ile Glu Gln Tyr Glu Leu Arg Glu
305                    310                    315                    320
Glu His Ile Asp Lys Val Phe Lys His Lys Asp Leu Gln Gln Gln Leu
                325                    330                    335
Val Asp Ala Lys Leu Gln Gln Ala Gln Glu Met Leu Lys Glu Ala Glu
                340                    345                    350
Glu Arg His Gln Arg Glu Lys Asp Phe Leu Leu Lys Glu Ala Val Glu
            355                    360                    365
Ser Gln Arg Met Cys Glu Leu Met Lys Gln Gln Glu Thr His Leu Lys
        370                    375                    380
Gln Gln Leu Ala Leu Tyr Thr Glu Lys Phe Glu Glu Phe Gln Asn Thr
385                    390                    395                    400
Leu Ser Lys Ser Ser Glu Val Phe Thr Thr Phe Lys Gln Glu Met Glu
                405                    410                    415
Lys Met Thr Lys Lys Ile Lys Lys Leu Glu Lys Glu Thr Thr Met Tyr
                420                    425                    430
Arg Ser Arg Trp Glu Ser Ser Asn Lys Ala Leu Leu Glu Met Ala Glu
            435                    440                    445
Glu Lys Thr Val Arg Asp Lys Glu Leu Glu Gly Leu Gln Val Lys Ile
            450                    455                    460
Gln Arg Leu Glu Lys Leu Cys Arg Ala Leu Gln Thr Glu Arg Asn Asp
465                    470                    475                    480
Leu Asn Lys Arg Val Gln Asp Leu Ser Ala Gly Gly Gln Gly Ser Leu
                485                    490                    495
Thr Asp Ser Gly Pro Glu Arg Arg Pro Glu Gly Pro Gly Ala Gln Ala
            500                    505                    510
Pro Ser Ser Pro Arg Val Thr Glu Ala Pro Cys Tyr Pro Gly Ala Pro
            515                    520                    525
Ser Thr Glu Ala Ser Gly Gln Thr Gly Pro Gln Glu Pro Thr Ser Ala
        530                    535                    540
Arg Ala
545
```

<210> 45
<211> 1614
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (1)...(1614)

<400> 45

```
atg gcg ggg ccc ccg gcc cta ccc ccg ccg gag acg gcg gcg gcc gcc        48
Met Ala Gly Pro Pro Ala Leu Pro Pro Pro Glu Thr Ala Ala Ala Ala
 1               5                    10            ·      15


acc acg gcg gcc gcc gcc tcg tcg tcc gcc gct tcc ccg cac tac caa        96
Thr Thr Ala Ala Ala Ala Ser Ser Ser Ala Ala Ser Pro His Tyr Gln
            20                    25                    30
```

```
gag tgg atc ctg gac acc atc gac tcg ctg cgc tcg cgc aag gcg cgg          144
Glu Trp Ile Leu Asp Thr Ile Asp Ser Leu Arg Ser Arg Lys Ala Arg
        35                  40                  45

ccg gac ctg gag cgc atc tgc cgg atg gtg cgg cgg cgg cac ggc ccg          192
Pro Asp Leu Glu Arg Ile Cys Arg Met Val Arg Arg Arg His Gly Pro
        50                  55                  60

gag ccg gag cgc acg cgc gcc gag ctc gag aaa ctg atc cag cag cgc          240
Glu Pro Glu Arg Thr Arg Ala Glu Leu Glu Lys Leu Ile Gln Gln Arg
65                  70                  75                  80

gcc gtg ctc cgg gtc agc tac aag ggg agc atc tcg tac cgc aac gcg          288
Ala Val Leu Arg Val Ser Tyr Lys Gly Ser Ile Ser Tyr Arg Asn Ala
                85                  90                  95

gcg cgc gtc cag ccg ccc cgg cgc gga gcc acc ccg ccg gcc ccg ccg          336
Ala Arg Val Gln Pro Pro Arg Arg Gly Ala Thr Pro Pro Ala Pro Pro
                100                 105                 110

cgc gcc ccc cgc ggg gcc ccc gcc gcc gcc gcc gcc gcc gcg ccg ccg          384
Arg Ala Pro Arg Gly Ala Pro Ala Ala Ala Ala Ala Ala Pro Pro
                115                 120                 125

ccc acg ccc gcc ccg ccg cca ccg ccc gcg ccc gtc gcc gcc gcc gcc          432
Pro Thr Pro Ala Pro Pro Pro Pro Ala Pro Val Ala Ala Ala Ala
        130                 135                 140

ccg gcc cgg gcg ccc cgc gcg gcc gcc gcc gcc gcc aca gcg ccc ccc          480
Pro Ala Arg Ala Pro Arg Ala Ala Ala Ala Ala Ala Thr Ala Pro Pro
145                 150                 155                 160

tcg cct ggc ccc gcg cag ccg ggc ccc cgc gcg cag cgg gcc gcg ccc          528
Ser Pro Gly Pro Ala Gln Pro Gly Pro Arg Ala Gln Arg Ala Ala Pro
                165                 170                 175

ctg gcc gcg ccg ccg ccc gcg cca gcc gct ccc ccg gcg gtg gcg ccc          576
Leu Ala Ala Pro Pro Pro Ala Pro Ala Ala Pro Pro Ala Val Ala Pro
                180                 185                 190

ccg gcc ggc ccg cgc cgc gcc ccc ccg ccc gcc gtc gcc gcc cgg gag          624
Pro Ala Gly Pro Arg Arg Ala Pro Pro Pro Ala Val Ala Ala Arg Glu
                195                 200                 205

ccg ccg ctg ccg ccg ccg cca cag ccg ccg gcg ccg cca cag cag cag          672
Pro Pro Leu Pro Pro Pro Pro Gln Pro Pro Ala Pro Pro Gln Gln Gln
        210                 215                 220

cag ccg ccg ccg ccg cag cca cag ccg ccg ccg gag ggg ggc gcg gtg          720
Gln Pro Pro Pro Pro Gln Pro Gln Pro Pro Pro Glu Gly Gly Ala Val
225                 230                 235                 240

cgg gcc ggc ggc gcg gcg cgg ccc gtg agc ctg cgg gaa gtc gtg cgc          768
Arg Ala Gly Gly Ala Ala Arg Pro Val Ser Leu Arg Glu Val Val Arg
                245                 250                 255
```

```
tac ctc ggg ggc agc ggc ggc gcc ggc ggt cgc cta acc cgc ggc cgc          816
Tyr Leu Gly Gly Ser Gly Gly Ala Gly Gly Arg Leu Thr Arg Gly Arg
            260                 265             270

gtg cag ggg ctg ctg gag gag gag gcg gcg gct cga ggc cgt ctg gag          864
Val Gln Gly Leu Leu Glu Glu Glu Ala Ala Ala Arg Gly Arg Leu Glu
            275                 280             285

cgc acc cgt ctc gga gcg ctt gcg ctg ccc cgc ggg gac agg ccc gga          912
Arg Thr Arg Leu Gly Ala Leu Ala Leu Pro Arg Gly Asp Arg Pro Gly
        290             295             300

cgg gcg ccg ccg gcc gcc agc gcc cgc ccg tct cgc agc aag aga ggt          960
Arg Ala Pro Pro Ala Ala Ser Ala Arg Pro Ser Arg Ser Lys Arg Gly
305             310             315             320

gga gaa gag cga gta ctt gag aaa gaa gag gaa gaa gat gat gat gaa         1008
Gly Glu Glu Arg Val Leu Glu Lys Glu Glu Glu Glu Asp Asp Asp Glu
                325             330             335

gat gaa gat gaa gaa gat gat gtg tca gag ggc tct gaa gtg ccc gag         1056
Asp Glu Asp Glu Glu Asp Asp Val Ser Glu Gly Ser Glu Val Pro Glu
            340             345             350

agt gac cgt cct gca ggt gcc cag cac cac cag ctt aac ggc gag cgg         1104
Ser Asp Arg Pro Ala Gly Ala Gln His His Gln Leu Asn Gly Glu Arg
        355             360             365

gga cct cag agt gcc aag gag agg gtc aag gag tgg acc ccc tgc gga         1152
Gly Pro Gln Ser Ala Lys Glu Arg Val Lys Glu Trp Thr Pro Cys Gly
    370             375             380

ccg cac cag ggc cag gat gaa ggg cgg ggg cca gcc ccg ggc agc ggc         1200
Pro His Gln Gly Gln Asp Glu Gly Arg Gly Pro Ala Pro Gly Ser Gly
385             390             395             400

acc cgc cag gtg ttc tcc atg gca gcc atg aac aag gaa ggg gga aca         1248
Thr Arg Gln Val Phe Ser Met Ala Ala Met Asn Lys Glu Gly Gly Thr
            405             410             415

gct tct gtt gcc acc ggg cca gac tcc ccg tcc ccc gtg cct ttg ccc         1296
Ala Ser Val Ala Thr Gly Pro Asp Ser Pro Ser Pro Val Pro Leu Pro
            420             425             430

cca ggc aaa cca gcc cta cct ggg gcc gac ggg acc ccc ttt ggc tgt         1344
Pro Gly Lys Pro Ala Leu Pro Gly Ala Asp Gly Thr Pro Phe Gly Cys
            435             440             445

ccg ccc ggg cgc aaa gag aag cca tct gat ccc gtc gag tgg acc gtg         1392
Pro Pro Gly Arg Lys Glu Lys Pro Ser Asp Pro Val Glu Trp Thr Val
            450             455             460

atg gat gtc gtc gaa tat ttt act gag gct gga ttc ccg gag cag gcg         1440
Met Asp Val Val Glu Tyr Phe Thr Glu Ala Gly Phe Pro Glu Gln Ala
465             470             475             480

aca gct ttc caa gag cag gaa att gat ggc aaa tct ttg ctg ctc atg         1488
```

```
Thr Ala Phe Gln Glu Gln Glu Ile Asp Gly Lys Ser Leu Leu Leu Met
              485             490             495
```

```
cag cgc aca gat gtg ctc acc ggc ctg tcc atc cgc ctc ggg cca gcc    1536
Gln Arg Thr Asp Val Leu Thr Gly Leu Ser Ile Arg Leu Gly Pro Ala
              500             505             510
```

```
ctg aaa atc tac gag cac cac atc aag gtg ctt cag caa ggc cac ttt    1584
Leu Lys Ile Tyr Glu His His Ile Lys Val Leu Gln Gln Gly His Phe
              515             520             525
```

```
gag gat gat gac ccc gat ggc ttc tta ggc                            1614
Glu Asp Asp Asp Pro Asp Gly Phe Leu Gly
       530             535
```

```
<210> 46
<211> 1638
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (1)...(1638)

<400> 46
atg aag aac caa gac aaa aag aac ggg gct gcc aaa caa tcc aat cca     48
Met Lys Asn Gln Asp Lys Lys Asn Gly Ala Ala Lys Gln Ser Asn Pro
 1               5                  10                  15
```

```
aaa agc agc cca gga caa ccg gaa gca gga ccc gag gga gcc cag gag     96
Lys Ser Ser Pro Gly Gln Pro Glu Ala Gly Pro Glu Gly Ala Gln Glu
                20                  25                  30
```

```
cgg ccc agc cag gcg gct cct gca gta gaa gca gaa ggt ccc ggc agc    144
Arg Pro Ser Gln Ala Ala Pro Ala Val Glu Ala Glu Gly Pro Gly Ser
                35                  40                  45
```

```
agc cag gct cct cgg aag ccg gag ggt gct caa gcc aga acg gct cag    192
Ser Gln Ala Pro Arg Lys Pro Glu Gly Ala Gln Ala Arg Thr Ala Gln
       50                  55                  60
```

```
tct ggg gcc ctt cgt gat gtc tct gag gag ctg agc cgc caa ctg gaa    240
Ser Gly Ala Leu Arg Asp Val Ser Glu Glu Leu Ser Arg Gln Leu Glu
 65                  70                  75                  80
```

```
gac ata ctg agc aca tac tgt gtg gac aat aac cag ggg ggc ccc ggc    288
Asp Ile Leu Ser Thr Tyr Cys Val Asp Asn Asn Gln Gly Gly Pro Gly
                   85                  90                  95
```

```
gag gat ggg gca cag ggt gag ccg gct gaa ccc gaa gat gca gag aag    336
Glu Asp Gly Ala Gln Gly Glu Pro Ala Glu Pro Glu Asp Ala Glu Lys
                100                 105                 110
```

```
tcc cgg acc tat gtg gca agg aat ggg gag cct gaa cca act cca gta    384
Ser Arg Thr Tyr Val Ala Arg Asn Gly Glu Pro Glu Pro Thr Pro Val
                115                 120                 125
```

```
gtc aat gga gag aag gaa ccc tcc aag ggg gat cca aac aca gaa gag        432
Val Asn Gly Glu Lys Glu Pro Ser Lys Gly Asp Pro Asn Thr Glu Glu
    130             135             140

atc cgg cag agt gac gag gtc gga gac cga gac cat cga agg cca cag        480
Ile Arg Gln Ser Asp Glu Val Gly Asp Arg Asp His Arg Arg Pro Gln
145             150             155             160

gag aag aaa aaa gcc aag ggt ttg ggt aag gag atc acg ttg ctg atg       528
Glu Lys Lys Lys Ala Lys Gly Leu Gly Lys Glu Ile Thr Leu Leu Met
                165             170             175

cag aca ttg aat act ctg agt acc cca gag gag aag ctg gct gct ctg       576
Gln Thr Leu Asn Thr Leu Ser Thr Pro Glu Glu Lys Leu Ala Ala Leu
                180             185             190

tgc aag aag tat gct gaa ctg ctg gag gag cac cgg aat tca cag aag       624
Cys Lys Lys Tyr Ala Glu Leu Leu Glu Glu His Arg Asn Ser Gln Lys
            195             200             205

cag atg aag ctc cta cag aaa aag cag agc cag ctg gtg caa gag aag       672
Gln Met Lys Leu Leu Gln Lys Lys Gln Ser Gln Leu Val Gln Glu Lys
    210             215             220

gac cac ctg cgc ggt gag cac agc aag gcc gtc ctg gcc cgc agc aag       720
Asp His Leu Arg Gly Glu His Ser Lys Ala Val Leu Ala Arg Ser Lys
225             230             235             240

ctt gag agc cta tgc cgt gag ctg cag cgg cac aac cgc tcc ctc aag       768
Leu Glu Ser Leu Cys Arg Glu Leu Gln Arg His Asn Arg Ser Leu Lys
            245             250             255

gaa gaa ggt gtg cag cgg gcc cgg gag gag gag gag aag cgc aag gag       816
Glu Glu Gly Val Gln Arg Ala Arg Glu Glu Glu Glu Lys Arg Lys Glu
            260             265             270

gtg acc tcg cac ttc cag gtg aca ctg aat gac att cag ctg cag atg       864
Val Thr Ser His Phe Gln Val Thr Leu Asn Asp Ile Gln Leu Gln Met
    275             280             285

gaa cag cac aat gag cgc aac tcc aag ctg cgc caa gag aac atg gag       912
Glu Gln His Asn Glu Arg Asn Ser Lys Leu Arg Gln Glu Asn Met Glu
    290             295             300

ctg gct gag agg ctc aag aag ctg att gag cag tat gag ctg cgc gag       960
Leu Ala Glu Arg Leu Lys Lys Leu Ile Glu Gln Tyr Glu Leu Arg Glu
305             310             315             320

gag cat atc gac aaa gtc ttc aaa cac aag gac cta caa cag cag ctg      1008
Glu His Ile Asp Lys Val Phe Lys His Lys Asp Leu Gln Gln Gln Leu
                325             330             335

gtg gat gcc aag ctc cag cag gcc cag gag atg cta aag gag gca gaa      1056
Val Asp Ala Lys Leu Gln Gln Ala Gln Glu Met Leu Lys Glu Ala Glu
                340             345             350
```

```
gag cgg cac cag cgg gag aag gat ttt ctc ctg aaa gag gca gta gag     1104
Glu Arg His Gln Arg Glu Lys Asp Phe Leu Leu Lys Glu Ala Val Glu
        355                 360                 365

tcc cag agg atg tgt gag ctg atg aag cag caa gag acc cac ctg aag     1152
Ser Gln Arg Met Cys Glu Leu Met Lys Gln Gln Glu Thr His Leu Lys
    370                 375                 380

caa cag ctt gcc cta tac aca gag aag ttt gag gag ttc cag aac aca     1200
Gln Gln Leu Ala Leu Tyr Thr Glu Lys Phe Glu Glu Phe Gln Asn Thr
385                 390                 395                 400

ctt tcc aaa agc agc gag gta ttc acc aca ttc aag cag gag atg gaa     1248
Leu Ser Lys Ser Ser Glu Val Phe Thr Thr Phe Lys Gln Glu Met Glu
                405                 410                 415

aag atg act aag aag atc aag aag ctg gag aaa gaa acc acc atg tac     1296
Lys Met Thr Lys Lys Ile Lys Lys Leu Glu Lys Glu Thr Thr Met Tyr
                420                 425                 430

cgg tcc cgg tgg gag agc agc aac aag gcc ctg ctt gag atg gct gag     1344
Arg Ser Arg Trp Glu Ser Ser Asn Lys Ala Leu Leu Glu Met Ala Glu
        435                 440                 445

gag aaa aca gtc cgg gat aaa gaa ctg gag ggc ctg cag gta aaa atc     1392
Glu Lys Thr Val Arg Asp Lys Glu Leu Glu Gly Leu Gln Val Lys Ile
    450                 455                 460

caa cgg ctg gag aag ctg tgc cgg gca ctg cag aca gag cgc aat gac     1440
Gln Arg Leu Glu Lys Leu Cys Arg Ala Leu Gln Thr Glu Arg Asn Asp
465                 470                 475                 480

ctg aac aag agg gta cag gac ctg agt gct ggt ggc cag ggc tcc ctc     1488
Leu Asn Lys Arg Val Gln Asp Leu Ser Ala Gly Gly Gln Gly Ser Leu
                485                 490                 495

act gac agt ggc cct gag agg agg cca gag ggg cct ggg gct caa gca     1536
Thr Asp Ser Gly Pro Glu Arg Arg Pro Glu Gly Pro Gly Ala Gln Ala
                500                 505                 510

ccc agc tcc ccc agg gtc aca gaa gcg cct tgc tac cca gga gca ccg     1584
Pro Ser Ser Pro Arg Val Thr Glu Ala Pro Cys Tyr Pro Gly Ala Pro
                515                 520                 525

agc aca gaa gca tca ggc cag act ggg cct caa gag ccc acc tcc gcc     1632
Ser Thr Glu Ala Ser Gly Gln Thr Gly Pro Gln Glu Pro Thr Ser Ala
                530                 535                 540

agg gcc                                                             1638
Arg Ala
545
```

```
<210> 47
<211> 550
<212> PRT
<213> Oryctolagus cuniculus
```

<400> 47

```
Met Ala Gly Pro Pro Ala Leu Pro Pro Pro Glu Thr Ala Ala Ala Ala
1               5                   10                  15
Thr Thr Ala Ala Ala Ala Ala Ser Ser Ser Ala Ala Ser Pro His Tyr
            20                  25                  30
Gln Glu Trp Ile Leu Asp Thr Ile Asp Ser Leu Arg Ser Arg Lys Ala
            35                  40                  45
Arg Pro Asp Leu Glu Arg Ile Cys Arg Met Val Arg Arg Arg His Gly
    50                  55                  60
Pro Glu Pro Glu Arg Thr Arg Ala Glu Leu Glu Lys Leu Ile Gln Gln
65                  70                  75                      80
Arg Ala Val Leu Arg Val Ser Tyr Lys Gly Ser Ile Ser Tyr Arg Asn
                85                  90                  95
Ala Ala Arg Val Gln Pro Pro Arg Arg Gly Ala Thr Pro Pro Ala Pro
            100                 105                 110
Pro Arg Ala Pro Arg Gly Gly Pro Ala Ala Ala Ala Ala Pro Pro Pro
        115                 120                 125
Thr Pro Ala Pro Pro Pro Pro Ala Pro Val Ala Ala Ala Ala Ala
    130                 135                 140
Pro Ala Arg Ala Pro Arg Ala Ala Ala Ala Ala Ala Ala Thr Ala
145                 150                 155                     160
Pro Pro Ser Pro Gly Pro Ala Gln Pro Gly Pro Arg Ala Gln Arg Ala
                165                 170                 175
Ala Pro Leu Ala Ala Pro Pro Pro Ala Pro Ala Ala Pro Pro Ala Ala
                180                 185                 190
Ala Pro Pro Ala Gly Pro Arg Arg Ala Pro Pro Pro Ala Ala Ala Val
                195                 200                 205
Ala Ala Arg Glu Ser Pro Leu Pro Pro Pro Pro Gln Pro Pro Ala Pro
    210                 215                 220
Pro Gln Gln Gln Gln Gln Pro Pro Pro Pro Pro Pro Gln Gln Pro
225                 230                 235                     240
Gln Pro Pro Pro Glu Gly Gly Ala Ala Arg Ala Gly Gly Pro Ala Arg
                245                 250                 255
Pro Val Ser Leu Arg Glu Val Val Arg Tyr Leu Gly Gly Ser Ser Gly
                260                 265                 270
Ala Gly Gly Arg Leu Thr Arg Gly Arg Val Gln Gly Leu Leu Glu Glu
            275                 280                 285
Glu Ala Ala Ala Arg Gly Arg Leu Glu Arg Thr Arg Leu Gly Ala Leu
    290                 295                 300
Ala Leu Pro Arg Gly Asp Arg Pro Gly Arg Ala Pro Pro Ala Ala Ser
305                 310                 315                     320
Ala Arg Ala Ala Arg Asn Lys Arg Ala Gly Glu Glu Arg Val Leu Glu
            325                 330                 335
Lys Glu Glu Glu Glu Glu Glu Glu Asp Asp Glu Asp Asp Asp Asp
            340                 345                 350
Asp Val Val Ser Glu Gly Ser Glu Val Pro Glu Ser Asp Arg Pro Ala
    355                 360                 365
Gly Ala Gln His His Gln Leu Asn Gly Gly Glu Arg Gly Pro Gln Thr
    370                 375                 380
Ala Lys Glu Arg Ala Lys Glu Trp Ser Leu Cys Gly Pro His Pro Gly
385                 390                 395                     400
Gln Glu Glu Gly Arg Gly Pro Ala Ala Gly Ser Gly Thr Arg Gln Val
                405                 410                 415
Phe Ser Met Ala Ala Leu Ser Lys Glu Gly Gly Ser Ala Ser Ser Thr
            420                 425                 430
Thr Gly Pro Asp Ser Pro Ser Pro Val Pro Leu Pro Pro Gly Lys Pro
```

```
                435                    440                    445
Ala Leu Pro Gly Ala Asp Gly Thr Pro Phe Gly Cys Pro Ala Gly Arg
        450                    455                    460
Lys Glu Lys Pro Ala Asp Pro Val Glu Trp Thr Val Met Asp Val Val
465                    470                    475                    480
Glu Tyr Phe Thr Glu Ala Gly Phe Pro Glu Gln Ala Thr Ala Phe Gln
                    485                    490                    495
Glu Gln Glu Ile Asp Gly Lys Ser Leu Leu Leu Met Gln Arg Thr Asp
                500                    505                    510
Val Leu Thr Gly Leu Ser Ile Arg Leu Gly Pro Ala Leu Lys Ile Tyr
            515                    520                    525
Glu His His Ile Lys Val Leu Gln Gln Gly His Phe Glu Asp Asp Asp
        530                    535                    540
Pro Glu Gly Phe Leu Gly
545                    550
```

```
<210> 48
<211> 2561
<212> DNA
<213> Oryctolagus cuniculus

<220>
<221> CDS
<222> (246)...(1895)

<400> 48
ggtctgtgtg tgcgtgcgtg cgagtgagtg agtgtgtgca tattttttt tctcttttct      60
ttctctctct tttttttttt tttgcaaaga aacagcagcg ccgccgccgc tccgccgagg     120
cgctgcgccc cccgggggggg ggaggcggag gaggcgggca gcggcggagg gaggggagcc     180
ggggaggggg gcgccgcgct gggagggagg cagcgcgcac ggtgcagccg ggccgggcgg     240
gaggc atg gcg ggg ccc ccg gcc cta ccc ccg ccg gag acg gcg gcg gcc     290
      Met Ala Gly Pro Pro Ala Leu Pro Pro Pro Glu Thr Ala Ala Ala
       1                5                    10                    15

gcc acc acg gcc gcg gcc gcc gcc tcg tcg tcc gcc gct tcc ccg cac     338
Ala Thr Thr Ala Ala Ala Ala Ala Ser Ser Ser Ala Ala Ser Pro His
                20                    25                    30

tac caa gag tgg att ctg gac acc atc gac tcg ctg cgc tcg cgc aag     386
Tyr Gln Glu Trp Ile Leu Asp Thr Ile Asp Ser Leu Arg Ser Arg Lys
            35                    40                    45

gcg cgg ccg gac ctg gag cgc atc tgc cgg atg gtg cgg cgg cgg cac     434
Ala Arg Pro Asp Leu Glu Arg Ile Cys Arg Met Val Arg Arg Arg His
        50                    55                    60

ggc ccg gag ccg gag cgc acg cgc gcc gag ctc gag aaa ctg atc cag     482
Gly Pro Glu Pro Glu Arg Thr Arg Ala Glu Leu Glu Lys Leu Ile Gln
    65                    70                    75

cag cgc gcc gtg ctc cgg gtc agc tac aag ggg agc atc tcg tac cgc     530
Gln Arg Ala Val Leu Arg Val Ser Tyr Lys Gly Ser Ile Ser Tyr Arg
 80                    85                    90                    95

aac gcg gcg cgc gtc cag ccg ccc cgg cgc gga gcc acc ccg ccg gcc     578
Asn Ala Ala Arg Val Gln Pro Pro Arg Arg Gly Ala Thr Pro Pro Ala
                100                    105                    110
```

```
ccg ccg cgc gcc ccc cgc ggg ggc ccc gcc gcc gcc gcc gcg ccg ccg      626
Pro Pro Arg Ala Pro Arg Gly Gly Pro Ala Ala Ala Ala Ala Pro Pro
            115                 120             125

ccc acg ccc gcc ccg ccg ccg ccg ccc gcg ccc gtc gcc gcc gcc gcc      674
Pro Thr Pro Ala Pro Pro Pro Pro Pro Ala Pro Val Ala Ala Ala Ala
            130             135             140

gcc ccg gcc cgg gcg ccc cgc gcg gcc gcc gcc gcc gct gcc gcc aca      722
Ala Pro Ala Arg Ala Pro Arg Ala Ala Ala Ala Ala Ala Ala Ala Thr
    145             150                 155

gcg ccc ccc tcg ccc ggc ccc gcg cag ccg ggc ccc cgc gcg cag cgg      770
Ala Pro Pro Ser Pro Gly Pro Ala Gln Pro Gly Pro Arg Ala Gln Arg
160             165             170                 175

gcc gcg ccc ctg gcc gcg ccg ccg ccc gcg ccc gcc gct ccc ccg gcg      818
Ala Ala Pro Leu Ala Ala Pro Pro Pro Ala Pro Ala Ala Pro Pro Ala
            180             185             190

gcg gcg ccc ccg gcc ggc ccg cgc cgc gcc ccc ccg ccc gcc gcc gcc      866
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Val Ala Ala Arg Glu Ser Pro Leu Pro Pro Pro Pro Gln Pro Pro Ala
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Pro Gln Pro Pro Pro Glu Gly Gly Ala Ala Arg Ala Gly Gly Pro Ala
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Arg Pro Val Ser Leu Arg Glu Val Val Arg Tyr Leu Gly Gly Ser Ser
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Gly Ala Gly Gly Arg Leu Thr Arg Gly Arg Val Gln Gly Leu Leu Glu
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gag gag gcg gcg gcg cgg ggc cgc ctg gag cgc acc cgt ctc gga gcg     1154
Glu Glu Ala Ala Ala Arg Gly Arg Leu Glu Arg Thr Arg Leu Gly Ala
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Leu Ala Leu Pro Arg Gly Asp Arg Pro Gly Arg Ala Pro Pro Ala Ala
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Ala Gly Ala Gln His His Gln Leu Asn Gly Gly Glu Arg Gly Pro Gln
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Asp Val Leu Thr Gly Leu Ser Ile Arg Leu Gly Pro Ala Leu Lys Ile
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